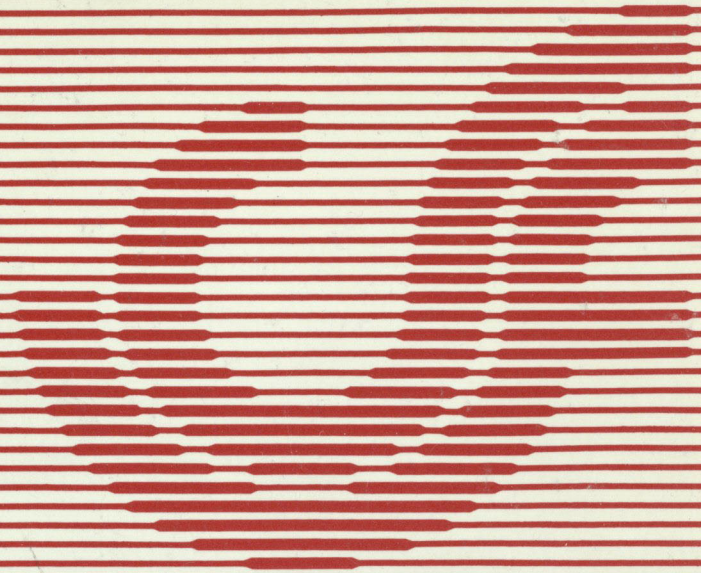
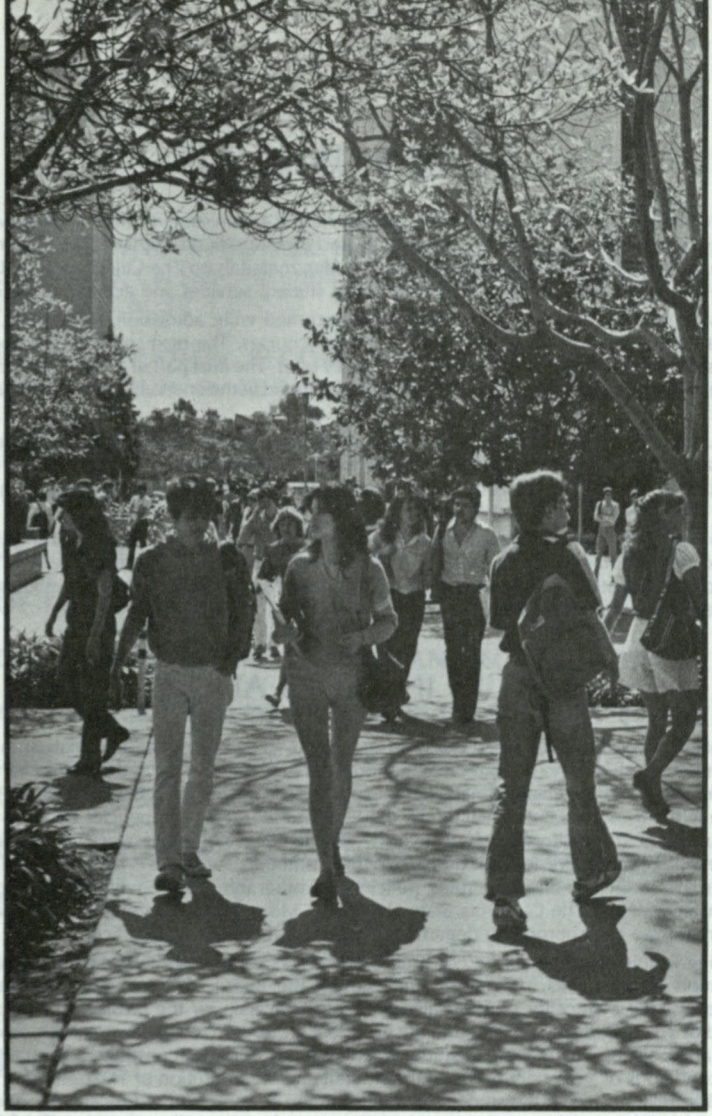
ARCHIVES



CALIFORNIA STATE UNIVERSITY FULLERTON

1983-85 CATALOG

Special Collections-Library
California State University, Fullerton



Copy 1

CALIFORNIA STATE UNIVERSITY FULLERTON 1983-85 CATALOG

Special Collections-Library
California State University, Fullerton

THIS CATALOG

Within this catalog may be found general academic and administrative information as well as specific descriptions of the departments, their majors and the courses offered in each. The first major part contains orienting information such as the calendar, materials on The California State University, an overview of Cal State Fullerton and facts about student services and activities on the campus.

The subsequent sections of the catalog are concerned with: admission, registration, records and regulations; academic advisement; and university courses. The next sections describe the departments and the programs of study and courses they offer. The final part of the catalog contains a listing of the faculty and administration. An index may be found at the end to help the reader locate specific items.

Because this catalog must be prepared well ahead of the academic year it covers, changes in some programs and rules occur. The class schedule and subsequent errata sheets are the final authority in regard to classes offered, instructors and revisions of regulations. This publication may be bought for a small fee from the Titan Bookstore.

The production of the catalog was under the direction of the Office of the Provost and Vice President for Academic Affairs and the Office of Public Affairs. Stephen L. Daigle and Jerry J. Keating were the editors; Christine M. Gunther of Cover All Graphics produced the cover design; and Leland P. Holder was the photographer.

CHANGES IN RULES AND POLICIES

Although every effort has been made to assure the accuracy of the information in this catalog, students and others who use this catalog should note that laws, rules and policies change from time to time and that these changes may alter the information contained in this publication. Changes may come in the form of statutes enacted by the Legislature or rules and policies adopted by the Board of Trustees of The California State University, by the chancellor or designee of The California State University, or by the president or designee of the institution. Further, it is not possible in a publication of this size to include all of the rules, policies and other information which pertain to the student, the institution, and The California State University. More current or complete information may be obtained from the appropriate department, school or administrative office.

Nothing in this catalog shall be construed, operate as or have the effect of an abridgement or a limitation of any rights, powers or privileges of the Board of Trustees of The California State University, the chancellor of The California State University or the president of the campus. The Board of Trustees, the chancellor and the president are authorized by law to adopt, amend or repeal rules and policies which apply to students. This catalog does not constitute a contract or the terms and conditions of a contract between the student and the institution or The California State University. The relationship of the student to the institution is one governed by statute, rules and policy adopted by the Legislature, the Board of Trustees, the chancellor, the president and their duly authorized designees.

Effective date: August 22, 1983



Beginning with the 1984 Summer Olympics team handball competition, California State University, Fullerton will celebrate its 25th Anniversary. Events honoring the university will take place throughout the 1984–85 academic year. Details of these activities will appear in other university publications.

TABLE OF CONTENTS

GENERAL INFORMATION—Cal State Fullerton Calendars 6, The California State University 9, Cal State Fullerton 13, Cal State Fullerton: An Overview 18, Student Services 31.

ADMISSION, REGISTRATION, RECORDS AND REGULATIONS—Admission to the University 40, Registration 53, Records and Regulations 58.

DEGREE REQUIREMENTS—Bachelor's Degree 74.

ACADEMIC ADVISEMENT—83.

UNIVERSITY CURRICULA—87.

SCHOOL OF THE ARTS—93.

SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS—129.

SCHOOL OF HUMAN DEVELOPMENT AND COMMUNITY SERVICE—157.

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES—197.

SCHOOL OF MATHEMATICS, SCIENCE AND ENGINEERING—299.

GRADUATE PROGRAMS—362.

FACULTY AND ADMINISTRATION—426.

INDEX—457.

REGIONAL MAP—463

CAMPUS MAP—464

GENERAL INFORMATION

NONDISCRIMINATION POLICY

Sex

The California State University does not discriminate on the basis of sex in the educational programs or activities it conducts. Title IX of the Education Amendments of 1972, as amended, and the administrative regulations adopted thereunder prohibit discrimination on the basis of sex in education programs and activities operated by California State University, Fullerton. Such programs and activities include admission of students and employment. Inquiries concerning the application of Title IX to programs and activities of California State University, Fullerton may be referred to Rosamaría Gómez-Amaro, the campus officer assigned the administrative responsibility of reviewing such matters or to the Regional Director of the Office of Civil Rights, Region 9, 1275 Market Street, 14th Floor, San Francisco, California 94103.

Handicap

The California State University does not discriminate on the basis of handicap *and is in compliance with* Section 504 of the Rehabilitation Act of 1973, as amended, and the regulations adopted thereunder.

More specifically, The California State University does not discriminate in admission or access to, or treatment or employment in, its programs and activities. Rosamaría Gómez-Amaro, Director of Affirmative Action, has been designated to coordinate the efforts of California State University, Fullerton to comply with the act and its implementing regulations. Inquiries concerning compliance may be addressed to this person at California State University, Fullerton, Langsdorf Hall 901B, Fullerton, California 92634, (714) 773-3951.

Race, Color, or National Origin

The California State University complies with the requirements of Title VI of the Civil Rights Act of 1964 and the regulations adopted thereunder. No person shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program of The California State University.



GENERAL INFORMATION

CAL STATE FULLERTON CALENDARS

1983–84 ACADEMIC CALENDAR

SUMMER SESSION 1983

June 1, Wednesday.....Instruction begins

July 4, Monday.....Independence Day holiday—campus closed

August 1, Monday.....Initial period for filing applications for admission to the spring semester 1984 begins

August 19, Friday.....Instruction ends

FALL SEMESTER 1983

August 22, Monday.....Academic year begins

August 29, Monday.....Instruction begins

September 5, Monday.....Labor Day—campus closed

September 8, Thursday.....Rosh Hashanah—campus open

September 9, Friday.....Admission Day—campus open

September 17, Saturday.....Yom Kippur—campus open

October 10, Monday.....Columbus Day—campus open

November 1, Tuesday.....Filing period opens for applications to the fall semester 1984

November 11, Friday.....Veterans Day—campus open

November 24–25, Thursday, Friday....Thanksgiving recess—campus closed

December 9, Friday.....Last day of classes

December 12, Monday.....Examination preparation day

December 13–16, Tuesday–Friday.....Semester examinations

December 17, Saturday.....Winter recess begins

January 2, Monday.....Winter recess ends

January 3, Tuesday.....Semester ends

SPRING SEMESTER 1984

January 19, Thursday.....Semester begins

January 30, Monday.....Instruction begins

February 13, Monday.....Lincoln's Birthday—campus open

February 20, Monday.....Washington's Birthday—campus closed

April 5, Thursday.....Martin Luther King, Jr., Memorial Observance

April 16, Monday.....Spring recess begins

April 23, Monday.....Instruction resumes

May 18, Friday.....Last day of classes

May 21, Monday.....Examination preparation day

May 22–25, Tuesday–Friday.....Semester examinations

May 26–27, Saturday, Sunday.....Commencement exercises; semester ends

May 28, Monday.....Memorial Day—campus closed

1984–85 ACADEMIC CALENDAR

SUMMER SESSION 1984

June 4, Monday.....Instruction begins

July 4, Wednesday .....Independence Day holiday—campus closed

August 1, Wednesday.....Initial period for filing applications for admission to the spring semester 1985 begins

August 24, Friday .....Instruction ends

FALL SEMESTER 1984

August 27, Monday.....Academic year begins

September 3, Monday .....Labor Day—campus closed

September 4, Tuesday .....Instruction begins

September 10, Monday .....Admission Day—campus open

September 27, Thursday.....Rosh Hashanah—campus open

October 6, Saturday .....Yom Kippur—campus open

October 12, Friday .....Columbus day—campus open

November 1, Thursday.....Filing period opens for applications to the fall semester 1985

November 12, Monday .....Veterans Day—campus open

November 22–23, Thursday, Friday ....Thanksgiving Day—campus closed

December 14, Friday .....Last day of classes

December 17, Monday .....Examination preparation day

December 18–21, Tuesday–Friday .....Semester examinations

December 22, Saturday .....Winter recess begins

January 3, Tuesday .....Winter recess ends

January 4, Wednesday .....Semester ends

SPRING SEMESTER 1985

January 24, Thursday .....Semester begins

February 4, Monday .....Instruction begins

February 12, Tuesday .....Lincoln's Birthday—campus open

February 18, Monday .....Washington's Birthday—campus closed

April 1, Monday .....Spring recess begins

April 8, Monday .....Instruction resumes

April 11, Thursday.....Martin Luther King, Jr., Memorial Observance

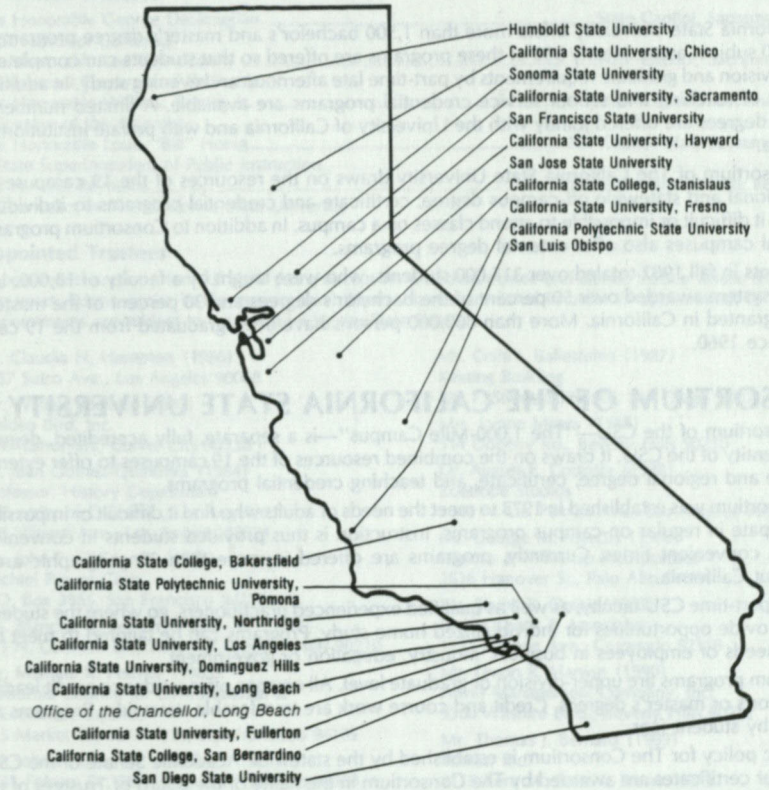
May 24, Friday .....Last day of classes

May 27, Monday.....Memorial Day—campus closed; examination preparation day

May 28–31, Tuesday–Friday .....Semester examinations

June 1–2, Saturday, Sunday .....Commencement exercises; semester ends

THE CALIFORNIA STATE UNIVERSITY



The individual California State Colleges were brought together as a system by the Donahoe Higher Education Act of 1960. In 1972 the system became The California State University and Colleges and in 1982 the system became The California State University. Today, 16 of the 19 campuses have the title "university."

The oldest campus—San Jose State University—was founded as a Normal School in 1857 and became the first institution of public higher education in California. The newest campus—California State College, Bakersfield—began instruction in 1970.

Responsibility for The California State University is vested in the Board of Trustees, whose members are appointed by the governor. The trustees appoint the chancellor, who is the chief executive officer of the system, and the presidents, who are the chief executive officers on the respective campuses.

The trustees, the chancellor and the presidents develop systemwide policy, with actual implementation at the campus level taking place through broadly based consultative procedures. The Academic Senate of The California State University, made up of elected representatives of the faculty from each campus, recommends academic policy to the Board of Trustees through the chancellor.

Academic excellence has been achieved by The California State University through a distinguished faculty, whose primary responsibility is superior teaching. While each campus in the system has its own unique geographic and curricular character, all campuses, as multipurpose institutions, offer undergraduate and graduate instruction for professional and occupational goals as well as broad liberal education. All of the campuses require for graduation a basic program of "General Education-Breadth Requirements" regardless of the type of bachelor's degree or major field selected by the student.

The California State University offers more than 1,500 bachelor's and master's degree programs in some 200 subject areas. Nearly 500 of these programs are offered so that students can complete all upper-division and graduate requirements by part-time late afternoon and evening study. In addition, a variety of teaching and school service credential programs are available. A limited number of doctoral degrees are offered jointly with the University of California and with private institutions in California.

The Consortium of The California State University draws on the resources of the 19 campuses to offer regional and statewide off-campus degree, certificate and credential programs to individuals who find it difficult or impossible to attend classes on a campus. In addition to Consortium programs, individual campuses also offer external degree programs.

Enrollments in fall 1982 totaled over 315,000 students, who were taught by a faculty of 18,000. Last year the system awarded over 50 percent of the bachelor's degrees and 30 percent of the master's degrees granted in California. More than 800,000 persons have been graduated from the 19 campuses since 1960.

CONSORTIUM OF THE CALIFORNIA STATE UNIVERSITY

The Consortium of the CSU—"The 1,000-Mile Campus"—is a separate, fully accredited, degree-granting entity of the CSU. It draws on the combined resources of the 19 campuses to offer external statewide and regional degree, certificate, and teaching credential programs.

The Consortium was established in 1973 to meet the needs of adults who find it difficult or impossible to participate in regular on-campus programs. Instruction is thus provided students in convenient places at convenient times. Currently, programs are offered in more than 20 geographic areas throughout California.

Full- and part-time CSU faculty, as well as qualified experienced practitioners, go where the students are, or provide opportunities for individualized home study. Programs can be tailored to meet the specific needs of employees in business, industry, education or government.

Consortium programs are upper-division or graduate level. All courses offer residence credit leading to bachelor's or master's degrees. Credit and course work are transferable statewide. Programs are financed by student fees.

Academic policy for The Consortium is established by the statewide Academic Senate of the CSU. Degrees or certificates are awarded by The Consortium in the name of the Board of Trustees of the CSU. The Consortium is accredited by the Western Association of Schools and Colleges.

For more information contact: The Consortium of The California State University, 400 Golden Shore, Long Beach, California 90802; (213) 590-5696.

The statewide Admissions and Records Office may be reached by dialing the following numbers: Los Angeles and Long Beach areas (213) 590-5696; all other areas in California toll free (800) 352-5717.

OFFICE OF THE CHANCELLOR THE CALIFORNIA STATE UNIVERSITY

400 Golden Shore, Long Beach, CA 90802, (213) 590-5506

Dr. W. Ann Reynolds ..... Chancellor
Mr. Harry Harmon ..... Executive Vice Chancellor
Mr. D. Dale Hanner ..... Vice Chancellor, Business Affairs
Dr. Alex C. Sherriffs ..... Vice Chancellor, Academic Affairs
Dr. Robert Tyndall ..... Acting Vice Chancellor, Faculty and Staff Affairs
Mr. Mayer Chapman ..... Vice Chancellor and General Counsel

TRUSTEES OF THE CALIFORNIA STATE UNIVERSITY

Ex Officio Trustees

The Honorable George Deukmejian ..... State Capitol, Sacramento 95814
Governor of California

The Honorable Leo T. McCarthy ..... State Capitol, Sacramento 95814
Lieutenant Governor of California

The Honorable Willie L. Brown, Jr. ..... State Capitol, Sacramento 95814
Speaker of the Assembly

The Honorable Louis "Bill" Honig ..... 721 Capitol Mall, Sacramento 95814
State Superintendent of Public Instruction

Dr. W. Ann Reynolds ..... 400 Golden Shore, Long Beach 90802
Chancellor of The California State University

Appointed Trustees

Appointments are for a term of eight years, except for a student trustee and alumni trustee whose terms are for two years. Terms expire in the year in parentheses. Names are listed in order of appointment to the board. Appointments are subject to confirmation by the State Senate.

Dr. Claudia H. Hampton (1986)
4157 Sutro Ave., Los Angeles 90008

Mr. Willie J. Stennis (1983)
Golden Bird, Inc.
3947 Landmark, Culver City 90230

Dr. Juan Gomez-Quinones (1984)
Professor, History Department
University of California, Los Angeles
405 Hilgard Ave., Los Angeles 90024

Mr. John F. O'Connell (1984)
Bechtel Power Corp.
P.O. Box 3965, San Francisco 94119

Ms. Blanche C. Bersch (1984)
415 N. Camden Dr., Suite 107, Beverly Hills 90210

Mr. Michael R. Peevey (1985)
California Council for Environmental & Economic Balance
215 Market St., Suite 1311, San Francisco 94105

Mr. John F. Crowley (1985)
1855 Folsom St., 5th Floor, San Francisco 94103

Ms. Wallace Albertson (1986)
1618 Sunset Plaza Dr., Los Angeles 90069

Mr. Donald G. Livingston (1987)
Carter Hawley Hale Stores, Inc.
550 S. Flower St., Los Angeles 90071

Ms. Celia I. Ballesteros (1987)
Keating Building
432 F. Street, Suite 406, San Diego 92101

Mrs. Lynne Myers (1988)
514 Doheny Rd., Beverly Hills 90210

Dr. August F. Coppola (1988)
Zoetrope Studios
1040 N. Las Palmas Ave., Los Angeles 90038

Mr. George M. Marcus (1989)
Marcus & Millichap Incorporated
2626 Hanover St., Palo Alto 94304

Mr. Blaine B. Quick (1983)
Blaine Quick & Associates
1152 Orange Ave., Coronado 92118

Mr. Dixon R. Harwin (1990)
Alwin Management Company, Inc.
9300 Wilshire Blvd., Beverly Hills 90212

Mr. Thomas J. Bernard (1989)
Tomar, Inc.
2115 Kern St., Suite 1, Fresno 93721

Mr. Roland E. Arnall (1990)
REA Companies
11878 LaGrange, Los Angeles 90025

Mr. Daniel J. Branfman
Associated Students Office
Sonoma State University
1801 E. Cotati Ave., Rohnert Park 94928

Officers of the Trustees

Governor George Deukmejian
President

Mr. John F. O'Connell
Chairman

Mrs. Lynne Myers
Vice Chair

Chancellor W. Ann Reynolds
Secretary-Treasurer

CAMPUSES OF THE CALIFORNIA STATE UNIVERSITY

California State College, *Bakersfield*
9001 Stockdale Highway
Bakersfield, California 93309
_____, President
(805) 833-2011

California State University, *Chico*
1st and Normal Streets
Chico, California 95929
Dr. Robin S. Wilson, President
(916) 895-6116

California State University, *Dominguez Hills*
Carson, California 90747
Dr. Donald R. Gerth, President
(213) 516-3300

California State University, *Fresno*
Shaw and Cedar Avenues
Fresno, California 93740
Dr. Harold H. Haak, President
(209) 487-9011

California State University, *Fullerton*
Fullerton, California 92634
Dr. Jewel Plummer Cobb, President
(714) 773-2011

California State University, *Hayward*
Hayward, California 94542
Dr. Ellis E. McCune, President
(415) 881-3000

Humboldt State University
Arcata, California 95521
Dr. Alistair W. McCrone, President
(707) 826-3011

California State University, *Long Beach*
1250 Bellflower Boulevard
Long Beach, California 90840
Dr. Stephen Horn, President
(213) 498-4111

California State University, *Los Angeles*
5151 State University Drive
Los Angeles, California 90032
Dr. James M. Rosser, President
(213) 224-0111

California State University, *Northridge*
18111 Nordhoff Street
Northridge, California 91330
Dr. James W. Cleary, President
(213) 885-1200

California State Polytechnic University, *Pomona*
3801 West Temple Avenue
Pomona, California 91768
Dr. Hugh O. LaBounty, President
(714) 598-4592

California State University, *Sacramento*
6000 J Street
Sacramento, California 95819
Dr. W. Lloyd Johns, President
(916) 454-6011

California State College, *San Bernardino*
5500 State College Parkway
San Bernardino, California 92407
Dr. Anthony H. Evans, President
(714) 887-7201

San Diego State University
5300 Campanile Drive
San Diego, California 92182
Dr. Thomas B. Day, President
(619) 265-5000

Imperial Valley Campus
720 Heber Avenue
Calexico, California 92231
(619) 357-3721

San Francisco State University
1600 Holloway Avenue
San Francisco, California 94132
_____, President
(415) 469-2141

San Jose State University
Washington Square
San Jose, California 95192
Dr. Gail Fullerton, President
(408) 277-2000

California Polytechnic State University,
San Luis Obispo
San Luis Obispo, California 93407
Dr. Warren J. Baker, President
(805) 546-0111

Sonoma State University
1801 East Cotati Avenue
Rohnert Park, California 94928
Dr. Peter Diamandopoulos, President
(707) 664-2156

California State College, *Stanislaus*
800 Monte Vista Avenue
Turlock, California 95380
Dr. A. Walter Olson, President
(209) 633-2122

CAL STATE FULLERTON

UNIVERSITY ADVISORY BOARD

William Bridgford, *Chair*
Chairman of the Board, Bridgford Foods Corp. ..... Anaheim
Evelyn E. Bauman, *Vice Chair* ..... Fullerton
Robert F. Beaver
President, Willard-Brent Co., Inc. ..... Los Angeles
James D. Carrington
Pastor, Friendship Baptist Church ..... Fullerton
Lawrence R. Holmes
President and Chief Executive Officer, Orange Bancorp, Inc. ..... Fountain Valley
Frederick T. Mason
Attorney at Law ..... Santa Ana
William J. McGarvey, Jr.
Chairman of the Board, McGarvey-Clark Realty, Inc. ..... Fullerton
James O. Perez
Judge, Orange County Superior Court ..... Santa Ana
Ruth Schermitzler ..... Brea
James D. Woods
President and Chairman of the Board, Baker Oil Tools ..... Orange

UNIVERSITY ADMINISTRATION

President ..... Jewel Plummer Cobb
Staff Assistant ..... Norma Morris
Executive Assistant ..... Donna C. Rhodes
Director of Affirmative Action ..... Rosamaría Gómez-Amaro
Administrative Assistant ..... F. Caroline Cosgrove
Associate Vice President for Development and Community Relations ..... Duane L. Day
Assistant Director for Development and Community Relations ..... Brenda Simmons-Parker
Coordinator, Alumni Affairs ..... Sue Scott
Director, Public Affairs ..... Jerry J. Keating
Director, Public Information ..... Judy M. Mandel
Provost and Vice President for Academic Affairs ..... Frank Marini
Administrative Program Specialist ..... Marlys K. Rietman
Associate Vice President, Academic Affairs ..... Michael H. Clapp
Academic Planning Analyst ..... Stephen L. Daigle
Associate Vice President, Academic Programs/Graduate Studies ..... Giles T. Brown
Director of Graduate Affairs ..... Gladys Fleckles
Associate Vice President, Extended Education ..... David L. Walkington
Coordinator of University Conferences and Facilities ..... Martin E. Carbone
Director of Operations, Extended Education ..... James T. Mavity
Director of Community Programs, Extended Education ..... Betty Robertson
Director of Program Services, Extended Education ..... Alex W. Sharpe
Associate Vice President, Student Academic Affairs/Special Programs ..... Brenda L. Wash (acting)
Dean, School of the Arts ..... Jerry Samuelson
Dean, School of Business Administration and Economics ..... Henry R. Anderson
Dean, School of Human Development and Community Service ..... Peter A. Facione
Dean, School of Humanities and Social Sciences ..... Don A. Schweitzer
Dean, School of Mathemtics, Science and Engineering ..... A. James Diefenderfer
University Librarian ..... Ernest W. Toy, Jr.
Assistant to the University Librarian ..... E. Sue Boeltl
Associate University Librarian ..... Carolyn Kacena
Chair, Collection Management ..... Donald W. Keran
Chair, Processing Services ..... Margaret L. Keithahn
Chair, Readers' Services ..... Patricia L. Bril
Dean of Admissions and Records ..... Ralph E. Bigelow
Assistant to the Dean ..... Francis M. Casey
Director of Admissions ..... Mildred H. Scott
Director of Relations with Schools and Colleges ..... William P. Gowler
Registrar ..... John B. Sweeney
Director of Academic Advisement ..... Michael P. Onorato
Assistant to the Director ..... Frances Vose

Director of Academic Data Systems and Institutional Research ..... Charles J. Mosmann
Administrative Assistant ..... Mary Wise-Aguilar
Director of Athletics ..... Lynn Eilefson
Associate Athletic Director ..... Leanne L. Grotke
Athletics Business Manager ..... Edward O. Carroll
Director, Educational Opportunity Program ..... Bernard L. Martinez
Assistant Director, E.O.P. Academic Affairs ..... Stephanie M. Ortiz
Assistant Director, E.O.P. Guidance ..... Jeremiah W. Moore
Director of Faculty Affairs and Records ..... Gordon M. Bakken
Administrative Assistant ..... Kay Adams-Hernandez
Director of Faculty Research ..... Marlene D. de Rios (acting)
Coordinator, Contracts and Grants ..... Elizabeth Gewin
Director of Information Services ..... Gene H. Dippel
ADP Manager ..... Edward T. Card
Instructional Coordinator ..... Dick Bednar
Manager, Operational Support ..... Charles Sowers
Manager, Administrative Programming ..... Bobbe Weber
Director of Learning Resources Services ..... Ernest B. Gourdine
Coordinator, Learning Assistant Center ..... Ron Fisher (acting)
Coordinator, Media Production ..... Coreen A. Strosser
Director, Center for Internships and Cooperative Education .....
Associate Director ..... Denise Cummings
Coordinator of Health Professions ..... Miles D. McCarthy
Coordinator of Student Affirmative Action ..... Ronald E. Hughes (acting)
Radiation Safety Officer ..... John Elliott
Vice President for Administration ..... Marion P. Sneed (acting)
Administrative Program Specialist ..... Marianne Kreter
Assistant Administrative Analyst ..... Tim Hughes
Associate Vice President, Facility Planning and Operations ..... James B. Sharp
Administrative Assistant ..... Joanie Donovan
Campus Planner ..... Glenn Lemon
Assistant Campus Planner ..... Philo Rohrbough
Coordinator, Energy/Space ..... James J. Corbett
Environmental Health and Safety Officer ..... Charles Robinson
Director of Public Safety ..... William Huffman
Director of Physical Plant ..... Beryl Kempton
Personnel Management Director ..... Richard D. Schulman
Office Manager ..... Marilyn White
Assistant Personnel Management Director ..... David J. Losco
Personnel Management Specialist ..... Emily E. Gilbert
Personnel Management Specialist ..... Anne E. Elkins
Business Manager ..... Thomas A. Williams
Administrative Assistant ..... Joseph J. Dusbabek
Accounting Officer ..... Robert E. McPeek
Budget Officer ..... Robert G. Fecarotta
Administrative Program Specialist ..... Charles R. Umlauf
Procurement and Support Services Officer ..... David D. Baird
Foundation Business Manager/Comptroller ..... Ronald G. Lamb
Titan Shops, Inc. Manager ..... Karl Lorentzen
Dean of Student Services ..... T. Roger Nudd
Assistant Dean, Student Services ..... Roberta F. Browning (acting)
Assistant Dean, Student Services ..... William J. Reeves
Administrator for Associated Students ..... William G. Pollock
Director, Career Development Center ..... John W. Gillis
Director, Financial Aid ..... Thomas D. Morris
Director, Handicapped Student Services ..... Paul K. Miller
Director, Housing and Academic Appeals ..... Lynne K. McVeigh
Director, International Education and Exchange ..... Louise G. Lee
Director, Student Health and Counseling Service ..... David P. Frelinger
Director, Testing and Research ..... Charles W. Buck
Director, University Activities Center ..... Charmaine L. Coker
Director, University Center ..... Harvey A. McKee
Director, Women's Center ..... Diane N. Reeves
Coordinator, Veterans' Services ..... Roy A. Willliams

Schools, Divisions and Departments

(Administrators serving as Chairs unless otherwise noted)

School of the Arts ..... Jerry Samuelson, Dean

Frank E. Cummings, III, Associate Dean

Art Department ..... George R. James
Music Department ..... David O. Thorsen
Theatre Department ..... Alvin J. Keller
Administrative Assistant ..... Charles Redmon, Jr.

School of Business Administration and Economics ..... Henry R. Anderson, Dean

Kenneth D. Goldin, Associate Dean

Accounting Department ..... Trini U. Melcher
Economics Department ..... Eric J. Solberg
Finance Department ..... Marco E. Tonietti
Management Department ..... Dorothy B. Heide
Management Science Department ..... John A. Lawrence
Marketing Department ..... Irene L. Lange

School of Human Development and Community Service ..... Peter A. Facione, Dean

Judith V. Ramirez, Associate Dean

Administrative Assistant ..... Laela E. Handy
Division of Teacher Education ..... James W. Cusick
Counseling Department ..... Michael C. Parker
Educational Administration Department ..... K. Jack Preble
Health Education, Physical Education and Recreation Department ..... Eula M. Stovall
Nursing Department ..... Vera M. Robinson
Reading Department ..... Norma B. Inabinette
Special Education Department ..... Calvin C. Nelson
Child Development Program ..... Carol P. Barnes, Coordinator (acting)
Human Services Program ..... Corinne S. Wood, Coordinator
University Recreation Program ..... Ronald G. Andris, Director

School of Humanities and Social Sciences ..... Don A. Schweitzer, Dean

Dennis F. Berg, Associate Dean

Administrative Assistant ..... Elaine Hutchison
Afro-Ethnic Studies Department ..... Carl E. Jackson
American Studies Department ..... John D. Ibson
Anthropology Department ..... Roger Joseph
Chicano Studies Department ..... Isaac Cardenas (acting)
Communications Department ..... Edgar P. Trotter, III
Criminal Justice Department ..... Garrett W. Capune
English and Comparative Literature Department ..... Thomas P. Klammer
Foreign Languages and Literatures Department ..... Leon J. Gilbert
Geography Department ..... Wayne N. Engstrom
History Department ..... James F. Woodward
Linguistics Department ..... Donald A. Sears
Philosophy Department ..... Craig K. Ihara
Political Science Department ..... Julian F. S. Foster
Psychology Department ..... P. Christopher Cozby
Religious Studies Department ..... Joseph Kalir (acting)
Sociology Department ..... Tony Bell
Speech Communication Department ..... Joyce M. Flocken
Gerontology Program ..... Rosalie Gilford, Coordinator
Latin American Studies Program ..... William J. Ketteringham, Coordinator
Liberal Studies Program ..... Ronald E. Clapper, Coordinator
Russian and East European Area Studies Program ..... Robert S. Feldman, Coordinator
M.A. in Social Sciences Program ..... Roger Joseph, Coordinator

School of Mathematics, Science and Engineering ..... A. James Diefenderfer, Dean

Margaret Woyski, Associate Dean, Academic Affairs (acting)
John Olmsted, Associate Dean, Administrative Affairs (acting)

Division of Engineering
Civil Engineering Department ..... Dindial V. Ramsamooj

Electrical Engineering Department ..... Mohinder S. Grewal
Mechanical Engineering Department ..... James J. Rizza
Biological Science Department ..... Steven N. Murray
Chemistry Department ..... Patrick A. Wegner
Computer Science Department ..... Edward F. Sowell
Earth Science Department ..... John A. Ryan
Mathematics Department ..... James O. Friel
Physics Department ..... Louis N. Shen
Environmental Studies Program ..... Vincent J. Buck, Coordinator
Science Education Program ..... Gaylen R. Carlson, Coordinator

COMMUNITY MINORITY AFFAIRS ADVISORY COUNCIL

James O. Perez, *Chair*
Judge, Orange County Superior Court ..... Santa Ana
W. J. Bill Thom, *Vice Chair*
President, Anaheim Office Furniture & Supply, Inc. ..... Anaheim
Rudolph Trujillo, *Secretary*
President, Tru Industries ..... Buena Park
Frederick Aguirre
Attorney-at-Law ..... Fullerton
Benedict Boyd
Education/Health Specialist, Orange County Human Relations Commission ..... Santa Ana
James D. Carrington
Pastor, Friendship Baptist Church ..... Fullerton
Amin David, Jr.
President, Regal Products ..... Anaheim
Anthony Espinoza
Account Executive, Bache, Halsey, Stuart, Shields, Inc. ..... Pasadena
Jerry Folsom
Project Director, Orange County Indian Center Employment and Training Program ..... Garden Grove
Manuel B. Frias
Director of Personnel Services, El Camino College ..... Torrance
Maria Mendoza
EEO Officer, Orange County Manpower Commission ..... Santa Ana
Joe Montes
Health Services Consultant ..... Santa Ana
Ramon Najera
President, Mexicola, Inc. ..... El Toro
Mahlon Puryear
President, Orange County Urban League, Inc. ..... Santa Ana
Herlinda Sullivan
President, Sperm Bank, Inc. ..... Santa Ana
Mary White
Educator/Consultant ..... Anaheim
Joshua White
Developer/Insurance Planner ..... Anaheim
Joe Wilson
Research Coordinator, Capistrano Unified School District ..... San Juan Capistrano

CALIFORNIA STATE UNIVERSITY, FULLERTON FOUNDATION

Board of Directors

Jewel Plummer Cobb, President*
Marion P. Sneed, Vice President*
Maria C. Linder, Secretary**
David L. Palmer, Treasurer
Clare G. Carlson
Peggy Cotton
Hilton Dalessi
A. James Diefenderfer*
Richard A. Houston**
Leslie Lahm†
Frank Marini*
T. Roger Nudd*
Christopher Powers†
Walter J. Pray
Clarence J. Schwartz
Mark H. Shapiro**
Robin Terry†
Edgar Trotter**
Richard M. Wagner

Administrative Officer

E. Karl Lorentzen, Executive Director

TITAN SHOPS, INC.

Board of Directors

Marion P. Sneed, President*
David L. Palmer, Vice President
Richard M. Wagner, Secretary-Treasurer
Edward Carpenter
Jewel Plummer Cobb*
Leslie Lahm†
Ronald G. Lamb *
T. Roger Nudd*
Leanne Pearcy†
Christopher Powers†
Clarence J. Schwartz
Robin Terry†
Edgar Trotter**

Administrative Officer

E. Karl Lorentzen

---

* Administrator
** Faculty
† Student

CAL STATE FULLERTON: AN OVERVIEW

GOVERNANCE

Governance on the campus at California State University, Fullerton is the responsibility of the president and her administrative staff. Working closely with the president are a number of faculty and student groups which initiate, review, and/or recommend for approval, various university programs, policies, and procedures. Although the president is vested with the final authority for all university activities, maximum faculty and staff participation in campus decision-making and governance has become traditional. Students also are actively involved, with student representatives being included on almost all university, school, and departmental committees and policy-making bodies.

ADVISORY BOARD

The California State University, Fullerton Advisory Board consists of community leaders interested in the development and welfare of the university. The board advises the president on a number of matters, particularly those affecting university and community relations. Members are appointed by the president for terms of four years.

PHILOSOPHY AND OBJECTIVES

Institutions of higher learning disseminate and advance knowledge. The philosophy which guides an institution can limit or promote the successful achievement of these objectives. Therefore, from its inception, Cal State Fullerton has consciously endeavored, through its educational program, to enhance the fullest possible development of those it serves. For both professors and students this entails a commitment to high standards of scholarship, to a comprehensive rather than a narrow approach in major areas of study, and to a concern with research and other creative activity.

The university is committed to provide students with the intellectual skills necessary for their continued personal and professional development, as well as an awareness of human achievement. The general education forms one segment of a student's program of study. The other two major segments are courses taken in the major field of concentration, and courses taken as electives. Specifically, the general education program has as its objectives the development in each student of:

- The skills of reading, writing, computing and thinking.
- An understanding of the development of Western civilization.
- An awareness of the content, approaches, and methods of the various disciplines and of the interrelationships of those disciplines.
- An understanding of cultural diversity within our own society and of the cultures of other societies.
- An appreciation of aesthetics through practice or criticism of the arts.

To achieve these objectives the faculty of California State University, Fullerton has established a general education program described under "Graduation Requirements for the Bachelor's Degree."

RETROSPECT AND PROSPECT

In 1957 Cal State Fullerton became the 12th State College in California to be authorized by the Legislature. The following year a site was designated in northeast Fullerton. It was purchased in 1959, when Dr. William B. Langsdorf was appointed as founding president, when the first staff was selected and when plans for opening the new college were made. Orange County State College started classes for 452 full- and/or part-time students in September, 1959, using leased quarters for its administrative offices on the Fullerton Union High School campus and for its classrooms at Fullerton's Sunny Hills High School. In the fall of 1960, the college opened classes on its own campus, where it occupied 12 temporary buildings. The name changed to Orange State College in July, 1962, to California State College at Fullerton in July, 1964, to California State College, Fullerton in July, 1968 and to California State University, Fullerton in June, 1972. The first permanent building, the six-story Letters and Science Building, was occupied in 1963.

Today, there are many dramatic evidences of additional, rapid growth. Sixteen buildings or building clusters have been completed, and enrollment has climbed to approximately 23,400. Since 1963 the

curriculum has expanded to include lower division work and many graduate programs.

The Donahoe Higher Education Act of 1960 established the California State Colleges as a system under an independent Board of Trustees, redefined the functions of the State Colleges, and related them to both the community colleges and the University of California system. Cal State Fullerton was the first of the State Colleges to submit and secure approval for a five-year master curricular plan and one of the first three to secure approval of a master building plan. It also was able to think in terms of its ultimate enrollment objectives from the beginning.

On May 26, 1971, Dr. L. Donald Shields, who had served as acting president for seven months, was appointed the second president of Cal State Fullerton. Dr. Miles D. McCarthy became acting president in January, 1981, and Dr. Jewel Plummer Cobb took office October 1, 1981.

THE HUMAN AND NATURAL ENVIRONMENT OF THE UNIVERSITY

Fullerton, a city of approximately 100,000 inhabitants, is located in northern Orange County, about 30 miles southeast of central Los Angeles. It is in the center of the new Southern California population center and within easy freeway access of all the diverse natural and cultural attractions of this region.

Orange County, with an area of 782 square miles, is the 48th in size of California's 58 counties, but it is second largest county in population (1.9 million), and in total personal income. Orange County has experienced during the last three decades almost unprecedented growth as communities continue to occupy the diminishing expanses of open land.

Today, there co-exists an interesting mixture of the old and new economic and life styles in Orange County. Underneath the soil, archeologists and bulldozers uncover traces of the hunting and gathering Indian bands which flourished at least as early as 4,000 years ago in what was a benign and bountiful region. More visible traces remain of the Spanish and Mexican periods and cultures: Mission San Juan Capistrano, which began the agricultural tradition in Orange County, and subsequent adobes from the great land grants and ranches that followed. Additionally, both customs and many names persist from this period, and so does some ranching. The architectural and other evidences of the subsequent pioneer period are still quite visible: farmsteads, old buildings from the new towns that then were established in the late 1800's, mining operations, and traces of early resort and other types of promotional activities. For about 100 years, farming was the main economic activity with products such as grapes, walnuts, vegetables, and increasingly oranges, replacing the older wheat and cattle ranches. Today, agriculture still is very important. Orange County ranks high among California's counties in mineral production with its oil, natural gas, sand and gravel, and clay mining and processing activities.

The extensive development of the 42 miles of beaches in Orange County and the development of such attractions as Disneyland, Knott's Berry Farm, the Laguna Festival of Arts and Pageant of the Masters, and the Anaheim Stadium and Convention Center continue to make tourism an increasingly important activity. So does the Mediterranean-type climate with: rainfall averaging 14 inches per year; and generally mild days (with either freezing or 100-degree temperatures uncommon) with frequent morning fogs during the summer. Both downtown Los Angeles and the Pacific Ocean can be reached by car in half an hour, and mountain and desert recreation areas are as close as an hour's drive from the campus.

THE CAMPUS AND ITS BUILDINGS

Once part of a vast orange grove, Cal State Fullerton's attractively landscaped campus now consists of 225 acres bounded on the south by Nutwood Avenue, on the west by State College Boulevard, on the north by Yorba Linda Boulevard and on the east by the Orange Freeway.

The portion of Orange County immediately surrounding the campus is predominantly suburban; it includes housing tracts, apartment complexes, shopping centers, space-age industrial firms and still remaining orange groves and undeveloped hills and fields.

Other educational institutions also are part of the immediate environment. The new campus of the Southern California College of Optometry, with its four modernistic buildings, opened in the spring of 1973. It is just north of Cal State Fullerton. To Cal State's immediate south is Pacific Christian College, a liberal arts school with a Bible emphasis, where students started classes in the fall of 1973. The Western State University College of Law, California's largest law school, occupied its new campus to the immediate west of Cal State in January, 1975.

The Cal State Fullerton campus itself has a high density urban layout of buildings and facilities

developed to serve a predominantly commuting public. The university's modern buildings were planned so that no student should need more than 10 minutes to go from one class to another. The campus is surrounded with landscaped parking facilities.

The first permanent building, the Letters and Science Building, was occupied in 1963. This imposing structure, master planned to serve ultimately as a facility for undergraduate and graduate science instruction and research, has been used to house other programs until they could warrant new facilities of their own.

Since 1963, growth has been rapid. The Performing Arts Center was completed in 1964, the Physical Education Building in 1965, the Library Building in 1966, the Commons in 1967, the Humanities-Social Sciences Building and Visual Arts Center in 1969, William B. Langsdorf Hall (Administration-Business Administration) and the Engineering Building in 1971, the Student Health Center in 1974, the Education-Classroom Building and University Center in 1976, and an addition to the Visual Arts Center in 1979. Langsdorf Hall and the Engineering Building reflect a commitment to programs with high community involvement. In addition to the many undergraduate students who study and learn in these buildings, many professional engineers and local businessmen also use these very advanced facilities to continue their education.

In the northeast corner of the campus is the Fullerton Arboretum, which was dedicated in the fall of 1979. It includes a 15-acre contoured botanical garden, a three-acre organic garden and a two-acre experimental plot. The ecologically arranged floras depicts habitat from the desert to the tropics. The Fullerton Arboretum also includes Heritage House, a 19th-century restored dwelling. Heritage House serves as a cultural museum for North Orange County as well as an Arboretum office.

The ample freeway and surface street accommodations that approach the main entrance to the university's modern campus also provide comparatively easy access to the great and diverse learning resources available in Southern California: many other colleges and universities; museums, libraries, art galleries; zoos; and the wide variety of economic governmental, social, and cultural activities and experiments that may be found in this dynamic and complex region of California and the United States.

Information concerning the instructional, laboratory and other physical plant facilities which relate to the academic program may be obtained from the Office of Facility Planning and Operations.

COMMUNITY SUPPORT GROUPS

California State University, Fullerton seeks to establish and maintain close relationships with the communities it serves through a network of 11 community support groups. More than 7,000 persons are members of these groups. Each group determines, for itself, membership criteria and annual membership fees. Two of the groups (President's Associates and Friends of the State University) have broad interests in fostering university/community understanding; the nine others (Alumni Association, Art Alliance, Friends of the Fullerton Arboretum, Music Associates, Parents' Association, Patrons of the Library, Reading Educators' Guild, Titan Athletic Foundation, Tucker Wildlife Sanctuary) focus their interests on specific university programs or activities.

Questions about community support groups may be directed to the Office of Development and Community Relations.

STUDENTS OF THE UNIVERSITY

Much of the distinctive character and learning atmosphere of any campus comes from the nature and vitality of its students. Diversity, the synthesis of academic with work and family interests, strong achievement records, and relative maturity are some of the predominant characteristics of the 23,400-member student body at Cal State Fullerton.

The university is a commuter institution, with no university-affiliated housing. Thirty-four percent of the students work 35 hours or more a week, and yet nearly 54 percent take 12 or more units of course work each semester. Seventy-four percent come from a radius of 15 miles from the campus, but many have lived elsewhere before coming to Orange County.

Twenty-eight percent are lower division students, 52 percent are university juniors and seniors, and another 20 percent are doing postbaccalaureate or graduate work. Over seven-eighths of the upper division students are transfers from other institutions, principally community colleges. The median age is 23; more than fifty percent are women. Most participate in both the day and evening programs during the regular semesters and 16 percent are involved only in the late afternoon or evening program.

Many already have clearly defined disciplinary, professional and artistic interests. Sixteen percent have not declared an academic major and are in the process of exploring different fields of knowledge. For the past three or four years most of the undergraduates have searched for meaningful vocations and corresponding employment opportunities upon completion of degree programs. Most are trying to understand themselves and their world so that they can become more effective human beings and citizens.

Data regarding student retention in the academic programs at Cal State Fullerton may be obtained from the Office of Academic Data Analysis and Institutional Research.

PRESIDENT'S SCHOLARS PROGRAM

Cal State Fullerton has inaugurated the President's Scholars Program as a means of recognizing the academic and extracurricular excellence of a highly select group of students. Unlike many scholarship opportunities at the university that are based on need and merit, this program is based solely on merit.

Funded by the President's Associates, the program began in 1979 with the first President's Scholars selected from the high school graduating class of 1979. Each year, 10 additional President's Scholars are selected with the potential eligibility of all chosen individuals extending for a maximum of four years.

President's Scholars receive $500 a year, are hosted at special receptions, and are honored in other ways. They are highly visible on campus and are expected to assume leadership roles.

Candidates are considered by a committee of members of the university faculty and administration, as well as a community representative. The committee makes its recommendations to the president, who personally selects the scholars.

Application forms are available by telephoning or by writing President's Scholars Program; Office of Relations with Schools and Colleges; California State University, Fullerton; Fullerton, CA 92634.

THE FACULTY

Central to the effectiveness of any institution of higher learning is the quality and dedication of its faculty. Cal State Fullerton is proud of the high caliber of its faculty and of the commitments of its individual faculty members to teaching and scholarship.

In the fall of 1982 there were 840 full-time faculty and administrators and 548 part-time faculty members teaching on the campus. For the full-time faculty members, the median age was 44 and almost all had some previous college or university teaching experience before coming to Fullerton. Faculty members also have a wide variety of experiences and accomplishments in research, the arts, professional work, consulting and other creative activities. Seventy-eight percent of the full-time faculty have earned their doctoral degrees, and these have come from more than 100 major colleges and universities.

Criteria for selection to the faculty include mastery of knowledge in an academic specialty, demonstrated skill and experience in teaching, and continuing interest in scholarly study and research. Retention and promotion criteria include service to the university and to the community.

Information concerning the faculty and other personnel may be obtained from the Office of Faculty Affairs and Records.

ACADEMIC AFFAIRS

The university offers a full four-year program of freshman through senior work as well as credential programs for teachers, and graduate, master's level work in many disciplines and professional fields. The university provides a diversity of educational opportunities to satisfy the broad range of backgrounds and interests of its students. Approximately 2,800 courses have been developed to provide learning from introductory to highly specialized, in-depth and advanced, work in a wide variety and growing number of fields of study.

Fullerton currently awards the baccalaureate and the master's degree in diverse fields of knowledge. Many of the baccalaureate and master's degree programs offer a choice of specializations (or options or emphases).

Certain traditions have developed with the academic programs at Fullerton. One is that of relative balance in strength of the programs in the physical sciences, the social sciences, the humanities and the fine arts. Another is that of academic excellence in the various specializations offered by the

university and the comparative freedom given to departments and professional schools to develop programs for their majors. Through the general education program of the University, students are prepared in basic subjects and gain experience in a variety of carefully selected disciplines.

ACCREDITATION

Cal State Fullerton is fully accredited by the Western Association of Schools and Colleges. Specific programs have been accredited by the Accreditation Board for Engineering and Technology, the American Assembly of Collegiate Schools of Business, the American Chemical Society, the American Council on Education for Journalism, the American Speech-Language-Hearing Association, the National Association of Schools of Art, the National Association of Schools of Music, the National Assocation of Schools of Theater, the National Council for Accreditation of Teacher Education, the Board of Directors of the National Athletic Trainers Association and the National League for Nursing. The Public Administration concentration is listed by the National Association for Schools of Public Administration. Cal State Fullerton is a member of the Council of Graduate Schools in the United States and the Western Association of Graduate Schools.

SCHEDULE OF CLASSES

The regular, educational program of the university is offered continuously from 8 a.m. until 10 p.m. Monday through Friday. The class schedule, listing all classes meeting during these hours, is prepared for each semester and can be purchased at the Titan Bookstore.

The classes held during the late afternoon and evening hours are part of the regular university program. Students enrolling in these classes must have met all admission requirements of the university, including the filing of an official application for admission, the filing of complete official transcripts from other schools, colleges and universities and in the case of lower-division applicants, the completion of required tests for admission.

Classes which are offered during the summer sessions and by the Office of Extended Education do not require admission to the university, but some courses do require specific prerequisites. Special schedules are provided for the summer sessions and extended education programs.

OFFICE OF THE PROVOST AND VICE PRESIDENT FOR ACADEMIC AFFAIRS

The Office of the Provost and Vice President for Academic Affairs is responsible for the leadership and coordination of all campus academic matters. The provost is the chief academic officer for the campus and is directly involved in the areas of curriculum, faculty personnel processes and budget and resource allocation as they pertain to instruction and academic support.

Information concerning the academic programs of Cal State Fullerton may be obtained from the Office of the Provost and Vice President for Academic Affairs. This information may include:

1. The current degree programs and other educational and training programs;
2. The instructional, laboratory, and other physical plant facilities which relate to the academic program;
3. The faculty and other instructional personnel;
4. Data regarding student retention at Cal State Fullerton and, if available, the number and percentage of students completing the program in which the student is enrolled or expressed interest; and
5. The names of associations, agencies or governmental bodies which accredit, approve, or license the institution and its programs, and the procedures under which any current or prospective student may obtain or review upon request a copy of the documents describing the institution's accreditation, approval or licensing.

Office of Academic Programs

The Office of Academic Programs coordinates the development of educational programs; provides an all-university perspective on educational activities at the campus; and stimulates academic innovations.

Particular responsibilities include leadership with the Curriculum Committee, General Education Committee, Graduate Education Committee, Committee for Educational Development and Innovation and other groups and individuals concerned with changing and improving the educational

programs of this institution. Responsibilities relating to the Chancellor's Office include regular review and updating of the Academic Master Plan; coordination of program performance review; and staff reports for the Chancellor's Office relating to academic planning.

Office of Student Academic Affairs and Special Programs

The Office of Student Academic Affairs and Special Programs coordinates academic services for undergraduate students. The office provides assistance to the faculty to help assure academic quality and high standards in the undergraduate programs and to insure a diversity of educational opportunities for students. In particular, these responsibilities include coordination of University advising, recruitment and retention activities (including Student Affirmative Action and Educational Opportunity Programs), and academic enrichment, assistance and tutorial programs.

Office of Extended Education

The Office of Extended Education serves traditional and non-traditional students through self-sufficient extension, summer session, adjunct enrollment and community programs. Anyone may enroll in extension courses or programs. *It is not necessary to be formally enrolled at the university.*

For information about establishing an extension course, or for current offerings, consult the Office of Extended Education.

Extension Credit

The maximum extension credit acceptable toward a bachelor's degree is 24 semester units. Six semester units of extension credit may be applied toward a master's degree *with prior approval.* Extension credit may not be used to fulfill the minimum residence requirements for graduation.

Intersession

In January, between fall and spring semesters, a concentrated intersession extension program is offered. Intersession course topics range from academic offerings (paralleling regular university course content) to specially designed topics for selected groups. Intersession is a time for intensive studies and exploration.

Summer Session

Summer session is for students who want to accelerate completion of degree or credential requirements or who want to enrich their educational backgrounds. All courses are the equivalent of university courses offered during the academic year and confer residence credit. (A selected program of extension courses offering extension credit only is also offered during the summer.) Day and evening classes are scheduled.

Students who wish to enroll only for summer session do not need to formally enroll at the university, but are expected to have satisfied any prerequisites for courses in which they enroll. Admission to summer session does not grant admission to the regular session.

There is no limit to the total number of units a person may take in summer session. However, a recommended program of study should not exceed 1⅓ units of course work per week of instruction. For veterans' benefit purposes, one unit per week is considered a full load.

Adjunct Enrollment

Adjunct enrollment allows those who are not formally enrolled in the university to take *regular university courses for extension credit.* Enrollment is on a space-available basis and with instructor permission. Students pay an extension fee and register through the Office of Extended Education.

Community Programs

The Office of Extended Education sponsors various community educational outreach programs, including the Continuing Learning Experience (CLE) program for retired persons. Check with the office for other current activities.

Veterans

Veterans may use the educational benefits available to them under federal and state laws to enroll in university extension courses, provided the classes are part of their prescribed and recognized objectives as approved by the Veterans Administration.

INSTRUCTIONALLY RELATED SERVICES AND PROGRAMS

Center for Internships and Cooperative Education

The Center for Internships and Cooperative Education was established to offer students the opportunity to combine academic experience with periods of professional employment related to their academic major. The center is the focal point and coordinating office for the initiation, development and expansion of cooperative education.

Students gain a clearer understanding of their career objectives through the application of their academic studies in the "world of work." Learning while working outside the classroom enables students to obtain a broader perspective of themselves. Many departments offer internship courses which carry academic credit. Some internships are salaried and consequently assist students in financing their educational living expenses.

The employer receives the services of individuals who are highly motivated, eager to learn and aware of theoretical developments in their field. The employer also finds participation in cooperative education to be one of the most reliable means of recruiting personnel for full-time employment upon graduation.

The university, through the establishment of the Center for Internships and Cooperative Education, has provided a means for students to enhance their academic program(s) and career objectives.

Computer Center

The Computer Center is located in the basement of the Science Building, offering consulting services to students and faculty as well as performing administrative data processing. As a component of the CSU Distributed Computer Network, the university offers a wide range of computing resources. The campus host computer is a CDC Cyber 170/730 with dual processors, 262,000 words of memory and 2.0 billion characters of on-line disk storage. It provides timesharing services to over 100 users. Also available are two additional timesharing computers; a PDF 11/45 which supports UNIX and a PDP 11/70 which provides RSTS. Users have access to many computer languages and a variety of statistical and other applications programs. Through the facilities of the network, users are able to share access with other campuses to a large capacity Cyber 170/760-730 complex located at the Division of Information Systems in Los Angeles.

Students have access to all these computing resources from 250 terminals connected to the campus data communications network. Terminal labs located at several sites on the campus allow students convenient access.

Educational Opportunity Program

The Educational Opportunity Program (EOP) provides comprehensive services for educationally, disadvantaged and/or culturally different students. These services include the identification, selection, counseling and retention of students who would not normally acquire a university education because of academic, financial or motivational barriers.

EOP gives each of the students individual attention. It uses knowledge of the student's distinctive patterns of social behavior, learning styles, motivations, and aspirations to assist them in realizing their full potentialities. EOP strives to develop a sense of community among its students through creative and identity-seeking activities.

The services offered by the Educational Opportunity Program include: recruiting, advisement, counseling, tutoring, and retention services. The services ensure a progressive rate of student achievement.

Recruiting

EOP recruiting teams visit high schools and colleges within a specified service area and advise students of the benefits of higher education at Cal State Fullerton. Utilizing Affirmative Action guidelines, a special attempt is made to recruit students with high academic potential. Assistance with admissions and financial aid procedures is provided.

Counseling Service

The counseling component is one key to the effectiveness of EOP. Peer counselors, working under the direction of professional counselors, are the important liaisons between each individual EOP student and the university as a whole. Assistance and guidance are provided to help the student resolve academic, social, financial and personal problems. The EOP Counseling Center also acts as

a referral point to direct students to the appropriate support services, e.g., financial aid, housing, Learning Assistance Center, tutorial services, health services.

Learning Resource Services

The Learning Resource Services consists of a Learning Assistance Center and Instructional Media Center.

Learning Assistance Center

Located on the lower level of the Library Building, a Learning Assistance Center (LAC) is for all university students who need improvement in their present learning skills, particularly in the areas of reading, writing, computation and study skills. This center contains special study materials, collateral textbooks and taped programs that supplement regular course offerings. Individual tutoring is available to students on request and through faculty or peer counselor referrals. All tutors are selected on the basis of ability in their area of concentration. Prior to tutoring, they are assigned to a series of education courses designed to give the prospective tutor a greater understanding and awareness of the nature of the learning process.

Instructional Media Center

The Instructional Media Center, located in the lower level of the Library building, includes audiovisual and instructional television services.

Services to the faculty and students include use of audiovisual equipment and materials, and rental of films. Services for faculty include production of transparencies, charts, graphs, diagrams, audiotapes and cassettes, tele-lectures and all types of still and motion picture photography. Instructional television services include distribution of off-the-air or videotaped programs from master control to classrooms, videotaping facilities and playback both in the studio or classroom and off the campus.

The center is responsible for the coordination and development of instructional applications of media, and the improvement of programs and materials designed for instructional use. Liaison and service relations are maintained with other media learning-oriented units on the campus. Personnel of the center assist the faculty in their analysis of media needs and the procurement or production of materials pertinent to instructional development.

Instructional Media Center staff are also responsible for the operation of the cable television system which provides educational access programming to the cities of Fullerton and Anaheim. Programming from the Communications Department and the Theatre Department, along with instructional programming from the Instructional Media Center, is provided.

The Library

The Library houses books, periodicals, documents, microforms, phonorecords and other materials selected through the joint efforts of faculty and librarians to support the graduate and undergraduate programs of the university. In addition to the general collections, in-depth special collections designed to support instructionally-related research have been created and developed.

A general information desk located on the first floor of the six-story building provides directional assistance as well as descriptive materials and guides to the use of the Library. Librarians offer subject-specialized reference and research assistance. Introductory tours are conducted at the beginning of each semester; specialized tours and lectures are given as requested by faculty. The Library offers courses in bibliographic research as a regular part of the curriculum.

The book collection includes more than 500,000 volumes and is increasing at the rate of 20,000–25,000 volumes per year. The Library currently subscribes to over 4,000 periodicals and newspapers; backfiles in bound volumes and microforms represent approximately 11,000 titles. The Library has been a selective depository for U.S. government publications since 1963; and a depository for California state documents since 1965. Additionally, there are collections of documents of other states, of Great Britain and of major international agencies. The total document collection now numbers about 400,000 items. The Library has access to over 200 bibliographic data bases which can be searched via a computerized reference retrieval service.

Materials for required and recommended classroom reading are made available for limited loan periods in the Reserve Book Room. For the Library user's convenience, photocopying machines (including microform printers), typewriters, calculators, group study rooms and music listening booths are provided.

In addition to the many resources available on the campus, mutual use agreements make accessible to students and faculty the library collections of all of The California State University and Colleges; University of California, Irvine; University of California, Riverside; Fullerton College; and other local specialized colleges and universities. Interlibrary borrowing arrangements with major university libraries throughout the country expand further the research potential for the Cal State Fullerton community.

Student Affirmative Action

CORE (Comprehensive Outreach, Retention and Enhancement) Student Affirmative Action (SAA) is part of The California State University's systemwide Student Affirmative Action plan. This plan was mandated by the California Legislative in 1974 under Assembly Concurrent Resolution No. 151.

The intent of this resolution was to address the underrepresentation of ethnic minority, women and economically disadvantaged students enrolled in California postsecondary institutions. The Fullerton SAA program focuses on these and other underrepresented groups who are academically qualified and meet the system's regular admission requirements. SAA's program of outreach, retention and educational enhancement serves 11 high schools, five community colleges and 10 community agencies within the university's service area.

The SAA outreach component provides community agencies, high school and community college students and their parents with information on higher education alternatives, admissions, financial aid, testing and other requirements and procedures.

Retention efforts, in conjunction with existing services, focus on academic support services, personal and career development activities, and social and cultural experiences for SAA targeted students.

Student Affirmative Action personnel recognize that students are more likely to succeed in an environment where they are treated with sensitivity and understanding. Educational enhancement workshops and other activities are planned by the SAA staff for faculty, staff and administrators. These workshops, and other activities that comprise the educational enhancement component, help to create a more sensitive environment for minority and underrepresented students.

RESEARCH OFFICES

Much and varied research is going on at Cal State Fullerton. Most of this is being done by individual faculty members and students as part of their scholarly and professional development activities. Research training is an important part of the education for more advanced work in most disciplines and professions, and many of our students are encouraged and assisted to learn and apply research skills in either independent or team projects.

The Research Committee of the Faculty Council and the Office of Faculty Research provide stimulus, coordination and direction to the research efforts of the university.

A Student Research Fellowship program and a Faculty Research Grant program award, at times, "seed grants" for research projects. The Departmental Associations Council (DAC) also allocates monies for student-initiated research. Services supporting research are given by the Cal State Fullerton Foundation, the university Computer Center, and the university Library. Augmenting the on-campus aids to research are the great and diverse resources available for study in the Southern California area.

In addition grants are received from the Office of Academic Program Improvement of the Chancellor's Office.

The university is particularly appreciative of the support money provided for faculty each year by the Friends of the State University.

Office of Academic Data Systems and Institutional Research

The Office of Academic Data Systems and Institutional Research serves as an information center and a problem-solving agency which collects, interprets and disseminates information. These data include enrollment histories and projections, distributions of data according to selected factors (e.g., level, type of instruction, unit value), summaries of student characteristics, and other statistics related to student population, course offerings and resources. Most of the data collection and analysis is related to the reporting requirements of The California State University and other agencies. The office is also responsible for operation of computer-based systems dealing with curriculum and with faculty.

Office of Faculty Research

The Office of Faculty Research provides personal assistance to faculty and staff in their efforts to obtain external funding for research and other creative activities. The office offers information on proposal writing and critiquing, helps to assemble teams for responding to requests for proposals, and serves as both an idea and technical support resource service. Budget development, proposal typing and duplicating services are also provided.

INSTITUTES AND SPECIAL STUDY CENTERS

A number of special centers with specific research objectives are operating at the university. These include the Center for Professional Development, the Center for Economic Education, the International Business Center, Field Services and Professional Development Center, the Institute for Molecular Biology, the Institute for Reading, the Sport and Movement Institute, the Institute for Early Childhood Education, the Laboratory for Phonetic Research, the Speech, Language and Hearing Clinics, the Institute of Geophysics, the Institute for Community Research and Development, and the Tucker Wildlife Sanctuary.

Center for Professional Development

The Center for Professional Development, housed within the School of Business Administration and Economics, provides a vehicle to serve the needs of the Orange County business community. The center's major activities fall into three areas:

1. Professional development, personal finance and small business/entrepreneurship programs offered in conjunction with the Office of Extended Education in the areas of accounting, finance and real estate, management, management information systems, management science and marketing.
2. In-house training and development programs to fit the specific needs of individual companies, government agencies, non-profit institutions, and other organizations. These programs vary in length from one-day seminars to extensive and ongoing training programs.
3. Industry research and consulting projects utilizing the specialized faculty resources of the center on a project consulting basis.

The operations of the Center for Professional Development are coordinated by the center's executive director, who may be contacted directly concerning the above mentioned programs or other new program possibilities.

Center for Economic Education

The Center for Economic Education is one of many such centers at colleges and universities in the United States working with the national Joint Council on Economics Education and the Economic Literacy Council of California to expand economic understanding. Center programs include (1) services to schools and colleges, individual educators, and the community; (2) research and professional training; and (3) operation of an economic education information center.

International Business Center

The need for an international dimension to business education is underscored by the importance of international business operations to domestic firms and the development of multinational firms and agencies. Equally important is a growing awareness of the diversity among the world's cultures and economies, and an understanding of an unavoidable interdependence between nations. The International Business Center has undertaken to meet these challenges in the international area by developing international business programs within the School of Business Administration and Economics.

Field Services and Professional Development Center

The Field Services Center is housed in the School of Human Development and Community Service. Established to provide nonprofit institutions and agencies with consultative services and educational programs, the Center can help solve existing problems and offer suggestions for more effective human services in Orange County and throughout Southern California. This evolving outreach program is specifically designed to interact with school districts, hospitals, human service agencies and nonprofit organizations.

Services offered by the center include:

- Creating new educational programs to meet current needs
- Providing qualified consultants on a variety of issues
- Presenting courses at locations convenient for organizations
- Co-sponsoring conferences on subjects related to human services
- Assisting with applications for state and federal grants related to human service programs

The Field Services and Professional Development Center works closely with the Office of Extended Education. Questions concerning operations may be directed to the Office of Extended Education or by contacting the executive director of the Field Services Center.

Institute for Reading

The Institute for Reading was established for the purpose of promoting an atmosphere congenial to research and creative activity for development of reading and related programs. In the fulfillment of this purpose, the institute is dedicated to the pursuit of issues encountered in teaching of reading to children and adults, using an interdisciplinary approach whenever feasible.

The institute (1) encourages communication of ideas and information among its membership for mutual professional improvement; (2) encourages students to affiliate with members and to adopt an interdisciplinary understanding of their particular areas of emphasis; (3) seeks ways of improving the professional skills of its membership through interdisciplinary communication; and (4) fosters research and creative activities.

The Reading Clinic is located in the School of Human Development and Community Service. It serves as a clinic and laboratory for graduate students in the reading option of the Master of Science in Education, Reading and the Reading Specialist Credential. Children from community schools attend the Reading Clinic for diagnosis and remediation.

Institute for Early Childhood Education

The Institute for Early Childhood Education (1) fosters and encourages communication of ideas and information among its membership for mutual professional development; (2) encourages its members to engage in research and writing related to the problems of early childhood education; (3) encourages students and teachers to adopt an approach of inquiry to solve their professional concerns relating to the education of young children; and (4) seeks ways of improving the individual teaching performance of its membership through communication with others at all levels of instruction.

Institute for Molecular Biology

The purposes of the institute are: (1) to foster and encourage communication of ideas and information among its membership for mutual professional improvement; (2) to encourage students to adopt affiliation with the membership and to adopt an interdisciplinary understanding of their particular areas of emphasis; (3) to foster an active research program on the part of the membership on problems best approached by the integration of chemistry, physics and biology; and (4) to seek ways of improving the individual teaching performance of its membership through interdisciplinary communication at all levels of instruction.

The institute sponsors a series of special seminars devoted to topics in the molecular biological sciences, featuring speakers from its own personnel and from other campuses.

Laboratory of Phonetic Research

The Laboratory of Phonetic Research is a research and training facility in the Department of Linguistics. It is equipped with electromechanical facilities for the acoustical, psychoacoustical, and physiological study of human speech. Its objectives are twofold:

Instruction. To provide teaching, training and experience to assist the language handicapped.
Research. To provide advanced students and faculty with facilities for research on language function and dysfunction.

Institute of Geophysics

The Institute of Geophysics is an interdisciplinary organization currently comprised of faculty members from the Departments of Earth Science and Physics. It was established to foster the communication of ideas and information; encourage interdisciplinary research; and improve instruction in

geophysics. Membership is open to all faculty members who are interested in all aspects of geophysics.

Tucker Wildlife Sanctuary

The Tucker Wildlife Sanctuary operates as a nonprofit California State University, Fullerton Foundation agency. The sanctuary provides for a program of continuing educational service to the community; a research center for biological field studies; a facility for teacher education in nature interpretation and conservation education; and a center for training students planning to enter into the public service field of nature interpretation.

Sport and Movement Institute

The Sport and Movement Institute is concerned with human movement and endeavors to: (1) promote and support research and other scholarly activities on the part of the membership; (2) stimulate generation of new ideas and information; (3) interpret and disseminate research findings to facilitate application by practitioners; (4) provide the services of evaluation, consultation and advisement to members of the university and community at large: (5) provide opportunities for student participation in the activities of the institute.

Speech, Language and Hearing Clinics

The Speech, Language and Hearing Clinics operate as a nonprofit California State University, Fullerton Foundation agency, providing speech and hearing services for individuals with communication disorders. In addition it is an off-campus clinical program for graduate students that involve experiences within medical and paramedical settings. The primary purpose of the clinics both on campus and off campus is to provide opportunities for teaching, service and research. The on-campus clinic is accredited by the Board of Examiners of the American Speech and Hearing Association and the California State Department of Education.

The Institute for Community Research and Development

The purpose of the Institute is to make the research, scholarly, and professional resources of the university available to local communities. Technical and research expertise is provided through problem-oriented research projects, consulting, workshops, seminars, and conferences on critical local policy questions.

The California Desert Studies Consortium

The California Desert Studies Consortium consists of seven State University campuses including Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, Pomona, and San Bernardino. The primary objectives of this consortium are to promote and provide physical and academic support for undergraduate educational programs in a variety of disciplines and to better understand and manage the physical and biological aspects of desert environments. The newly developed CSU Desert Studies Center provides living and laboratory space for over 100 undergraduates at a time at Soda Springs in the Mojave Desert, a location central to all high desert study areas.

The Southern California Ocean Studies Consortium

The Southern California Ocean Studies Consortium, which consists of six State University campuses (Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, Pomona), participates in training managers and scientists and in educating the general public by coordinating and facilitating marine educational and research activities. It provides facilities for introducing students to the marine environment or for intensive participation by students pursuing professional programs. The major facility is the R. V. Nautilus (50′ vessel) which is used by classes and research programs in biology, geology and ocean engineering. In addition the Consortium serves as an educational and research liason between regions, states and nations.

CALIFORNIA STATE UNIVERSITY, FULLERTON FOUNDATION

The California State University, Fullerton Foundation was established and incorporated in October 1959 to provide essential student, faculty and staff services which cannot be provided from state

appropriations; to supplement the program and activities of the university in appropriate ways; and to assist otherwise the university in fulfilling its purposes and in serving the people of the State of California—especially those of the area in which the university is located.

Services provided by the foundation include administration of scholarship and student loan funds; sponsored research programs; Tucker Wildlife Sanctuary; and certain institutes.

The foundation's overall policies are administered by a board of trustees composed of members of the university faculty, administration and students as well as community leaders.

TITAN SHOPS, INC.

Titan Shops, Inc., is comprised of the Titan Bookstore and food services and vending for the campus. Established and incorporated in July 1971, it is administered by a board of trustees composed of members of the university faculty, administration, students and community business leaders.

Titan Bookstore

Students are able to purchase or order books and supplies as needed for classes from the on-campus bookstore, owned and operated by Titan Shops, Inc. It is located in Commons I directly east of the University Center and west of the Library.

Food Service

Titan Shops, Inc., is responsible for the food service facilities on the campus. Titan Shops has a contract with Servomation to operate the campus food services and the vending machines on the campus.

STUDENT SERVICES

While classroom activity is devoted to the academic development of the learner, Student Services offers programs which simultaneously provide students with services and opportunities for personal growth. Some Student Services programs such as housing and financial aid emphasize their service and educationally supportive roles; others, like counseling, accentuate their developmental aspects. The opportunities offered by the university's Student Services program vary from the traditional social activities to lectures and concerts funded through the Associated Students. Developmental activities include the exploration of personal and vocational life styles and holistic health.

Student Services are comprised of the Career Development Center, Financial Aid, Handicapped Student Services, Health and Counseling Center, Housing and Transportation Office, International Education and Exchange Program, Testing and Research, University Activities Center, Associated Students, University Center (Student Union), Veterans' Services, Women's Center and Adult Re-entry Center.

OFFICE OF THE DEAN

The efforts of all of the Student Services are coordinated and supervised by the Dean of Student Services. The dean is responsible for the quality of student life on the campus and works with faculty, administration and students to improve the campus environment. The dean is aided by an assistant dean for programs and operations and an assistant dean for budget and personnel. Additionally, this office is charged with administering the university's academic appeals procedure and the student disciplinary codes.

CAREER DEVELOPMENT CENTER

The Career Development Center helps students within the context of their total educational development to define career goals and objectives and assists them in achieving these goals. In addition to its own resources, the center works closely with academic departments, the Academic Advisement Center, the Center for Cooperative Education and Internships, the Testing Center and other campus services to ensure that every student has an opportunity for career exploration and planning. The university believes that both students and employers are best served when graduates are placed in professions well suited to the student's interests, talents and education. All registered students are welcome to use the services of the center without cost.

The university will furnish, upon request, information concerning the subsequent employment of graduates from programs or courses of study which have the purpose of preparing students for a particular career field. This information includes data concerning average starting salary and the percentage of previously enrolled students who obtained employment. The information provided may include data collected from either graduates of the campus or graduates of all campuses in The California State University. Copies of the published information may be requested from the director of the center.

Career Development Services

The Career Development Center assists students to explore and plan their career options. Professional counselors help students evaluate personal values, skills and vocational interests through group and individual counseling and testing. The center's System of Interactive Guidance and Information (SIGI) uses computer technology to provide students with a clear and easily understood approach to the career decision-making process. A growing career library provides materials on career opportunities, labor market information, job search techniques and related topics. Information about careers in education, business, industry and government is also available.

Programs on career exploration are conducted throughout the year. Career information sessions introduce students to professionals working in a variety of fields. Career seminars offer assistance in goal setting and career decision making, job search techniques, interviewing skills, resume writing and graduate school application procedures.

A course titled "Career Exploration and Life Planning" (Counseling 252) is taught each semester by the center's counselors. This three-unit course is offered through the School of Human Development and Community Service.

Part-Time Placement

The center provides assistance for part-time or seasonal employment while attending the university. New students may contact the center regarding part-time employment after August 1 for the fall semester, or after January 1 for the spring semester. Listings for clerical workers, drivers, custodians, teacher aides, drafting, waiters, clerks, youth and recreation leaders, gardeners, and other jobs are received daily and posted in the center.

Business, Industry and Government Placement

Career placement counselors assist students and alumni who are seeking full-time employment in defining occupational preference, pursuing job leads and writing resumes. Each semester, the center coordinates an on-campus recruitment program in which employers interview students who are approaching graduation.

Educational Placement

Students in teacher education, pupil personnel services, or administration curricula of the university who are in the final semester of a credential, student teaching or directed fieldwork program are eligible for educational placement services. Counselors help students establish a professional employment file, supply information about openings and assist in making referrals to school districts and educational institutions.

Minority Relations

Minority Relations is responsible for broadening the awareness of the entire community to the career development services available to all minorities and for encouraging minority students to register with the center for career counseling and placement services. Counselors offer information regarding opportunities available to minority students for graduate study. This resource includes financial aid information, application filing, recruitment sessions and personal contacts with those involved with graduate programs on other campuses.

Minority Relations counselors work cooperatively with other staff specialists to help minority students utilize the various services of the center.

TESTING AND RESEARCH

Universitywide testing programs are coordinated and administered by the Testing Center. These include university admissions tests and general tests for graduate school admission. In addition, the Testing Center provides advice and consulting services to instructional departments in the development and administration of admission, selection, and placement tests for use by a specific department or program.

The Testing Center conducts ongoing research on the validity and appropriateness of tests used in university testing programs. It also designs and conducts surveys of student needs, attitudes, and other characteristics.

Testing requirements for students seeking admission are listed in the admissions section of this catalog. Information about testing requirements for specific instructional programs is available in the appropriate instructional division or the Testing Center.

STUDENT ACTIVITIES

The university recognizes the important role of extracurricular and cocurricular activities. An extensive organization of clubs, interest groups and committees exists within the student body and university structure. Opportunities for involvement are available to every student according to interest, ability and available time. In addition, each academic department has a student department association which provides informal contact with faculty, and opportunities for cocurricular acitivites related to majors or career interests.

University Activities Center

The University Activities Center provides opportunities to participate in and explore educational, cultural and social activities at the university.

The center provides programs to develop and strengthen management, leadership and organizational skills. A professional staff offers advice in planning, budgeting and publicizing programs such as

lectures, culture weeks, symposia, special events and projects. The center also advises students and organizations on university policies and procedures and assists in arranging for the use of campus facilities.

Student Organizations

Student organizations are vital to the total educational process. Organizations are recognized by the university in order to facilitate use of campus resources. The university supports and encourages student organizations. They are a vital part of our campus community. Any group of students may become a chartered organization, provided the goals and activities are consistent with university rules and regulations, by applying through the University Activities Center. Organizations are classified under the following headings: (1) Academic (organizations which share learning goals with a specific department); (2) Religious; (3) Professional; and (4) Special Interest.

More than 160 organizations are now recognized including several national social fraternities, national social sororities, a number of departmental associations and numerous special interest groups.

Associated Students

All students are members of the Associated Students, Inc., and are represented by the Associated Students Board of Directors and executive officers, who develop and maintain extracurricular programs of every type. Each year a budget is adopted in the spring which allocates anticipated activity fees and all other income to be derived from all programs during the following year. Directors are elected from various academic disciplines. The Departmental Associations Council is assigned a certain portion of the budget by the Board of Directors. The many departmental associations are established to promote closer relationships among students and faculty of their departments and bring programs to the departments that might not be possible without such funding. Most departments have established active associations.

Student Government

The Associated Students, Inc., is governed through the executive, legislative, and judicial branches of the Associated Students organization. The president and commissioners constitute the executive branch which has the responsibility for the development and administration of the program, including such activities as publications, intercollegiate athletics, intramural athletics, forensics, and music. The Associated Students Board of Directors has full responsibility for legislation by which this program is directed and for the allocation of student funds for the program. The judicial branch serves as a legal body for interpretation of the constitution and enforcement of Associated Student policies.

Student Publications

The university newspaper, the *Daily Titan,* is published as a product of communications classes.

Men's Athletics

The intercollegiate athletic program consists of teams in baseball, basketball, football, golf, gymnastics, soccer, tennis, fencing, water polo, cross-country, track and wrestling. A year-round program of intramural activities includes basketball, badminton, flag football, handball, softball, tennis and wrestling, swimming and weight lifting.

The university is a member of the Pacific Coast Athletic Association (PCAA). All men's athletic teams compete under rules of the National Collegiate Athletic Association (NCAA).

Women's Athletics

Major division athletic programs for women provide for participation in volleyball, basketball, softball, tennis, gymnastics, fencing, cross-country, track and field, and golf. The women's athletic program is a member of the Collegiate Athletic Association and Division I of the National Collegiate Athletic Association (NCAA).

University Recreation Program

Personal recreation and team and individual intramural activities are organized and administered by the University Recreation Program. The excellent physical education facilities of the university are

made available to this program so that students have access to them seven days a week. Students have free use of these facilities. Students' family dependents also use them on purchase of a family membership. Intramural competition is provided in flag football, basketball, softball, wrestling, tennis and other sports. Many coed competitions are held each year. The University Recreation Program office is located in the Physical Education Building.

Associated Students Productions

Entertainment programs, lectures, films, and dance-concerts are produced by a committee of students appointed by the president of the Associated Students. Known as Associated Students Productions, the committee selects, publicizes, produces and staffs outdoor concerts, concerts with major headline acts, intimate acts in the Pub, a film series with recent major releases, and a lecture program. Each activity is assigned to a subcommittee. Participation by any student interested in any phase of production is invited.

Child Care Center

Sponsored by the Associated Students, Inc., the Children's Center provides daytime nursery care for children of Cal State Fullerton students for a nominal fee. The professionally staffed center, located on the campus, is licensed by the State of California.

Legal Information and Referral

The Associated Students contracts with the College Legal Clinic, a Fullerton-based corporation to provide information on legal procedures and initial consultation on all types of legal matters. If desired, students are referred to Orange County attorneys for reduced fee services. A 24-hour "hotline" is maintained by the College Legal Clinic.

Mutual Ticket Agency

The Associated Students, through its business office, operates a ticket agency for the benefit of all students. Purchases for drama, music, shows and sporting events may be made during regular office hours. The agency is located in the University Center.

Student News Bureau

The Student News Bureau was organized in 1960 to provide the outside press with news of student activities on the campus.

University Center

Funded and operated entirely by student fees, the University Center offers a broad range of services and programs to the university community. Specific facilities include an eight-lane bowling center, craft center, main lounge, secondary lounge, games lounge, billiard parlor, meeting rooms, television room, organizational work space, multipurpose room, small theater, music-listening room, information center, three retail shops, Associated Students offices, sunken plaza, courtyard and food services.

Departmental Association Council

The Departmental Association Council represents academic/departmental student organizations on campus. the DAC supports student initiated programs such as symposia, films, lectures and student research. It operates from funds granted from the Associated Students and the university.

Camp Titan

Camp Titan is a camp for disadvantaged and underprivileged children of Orange County. Funded by the Associated Students and private donations, the student volunteers take between 75–125 children for a week of camping in the mountains.

HOUSING AND TRANSPORTATION

The Housing Office is concerned with helping students locate housing accommodations suitable to their life styles.

Services include:

- Summer orientations to find housing in advance of the fall semester.

- Lists of off-campus rooms, apartments and houses.
- Information about the two off-campus, privately owned and operated residence halls.
- Bulletin boards for students seeking roommates.
- A model rental agreement which represents the university's best recommendation to students.
- Information about tenant rights and responsibilities.
- Landlord/tenant mediation.
- Community referrals.
- A computerized car pool program.
- Information and schedules for the Orange County Transit District.

HEALTH AND COUNSELING CENTER

The Student Health and Counseling Center is located on Gymnasium Campus Drive and is open from 7:30 a.m. to 6 p.m., Mondays through Thursdays, and 7:30 a.m. to noon on Fridays.

Doctors and nurses, laboratory and x-ray technologists, pharmacists, a physical therapist and aides are on duty. No one has access to a patient's medical records unless the patient gives permission for the transfer of records, or in the rare case, by a court subpoena.

Most of the doctors are primary care physicians. In addition, there are gynecologists, an orthopedist, a dermatologist, an allergist and a podiatrist. The center has a pharmacy (not for outside prescriptions), a laboratory, an x-ray service, physical therapy, birth control counseling and nutritional counseling.

The cost of care given in the Health Center, except for a few specific fees, has been paid through student fees and by the State of California. Every registered student is eligible for care. However, the Health and Counseling Center cannot meet all medical needs. Students are urged to obtain health insurance if they do not already have adequate private insurance. A good, inexpensive policy is offered through the Associated Students office.

Students with emotional or personal problems may come to the Counseling and Mental Health Department where five psychological counselors and psychiatrists are available for consultations and treatment when needed. There is no charge for service and all information is confidential and will not be released without the written consent of the students.

FINANCIAL AID

The following information concerning student financial assistance may be obtained from the Office of Financial Aid.

Student financial assistance programs available are:

National Direct Student Loan
Guaranteed Student Loan
Pell Grant
Supplemental Educational Opportunity Grant
Bureau of Indian Affairs Grant
College Work-Study Program
Educational Opportunity Program Grant
State University Grant Program
State Scholarship
College Opportunity Grant
Graduate Fellowship
Private Scholarship
Emergency Loan Fund

Following are the methods by which assistance is distributed among student recipients. In order to receive financial aid the student must:

1. be a national of the United States, or be in the United States for other than a temporary purpose and intend to become a permanent resident thereof, or be a permanent resident of the Trust Territory of the Pacific Islands (holders of student visas are not eligible for aid);
2. be accepted for enrollment as at least a half-time student, or in the case of a student already attending the institution, be enrolled and in good standing as at least a half-time student;
3. maintain satisfactory progress in the course of study according to the standards and practices

of the institution;
4. not be in default on any loan made from a student loan fund and not owe a refund on grants previously received; and
5. be in need of financial assistance in order to pursue a course of study at California State University, Fullerton.

Eligibility is determined by a procedure called "need analysis." When an application for aid is made, students provide information which is used to determine the financial situation. When all the information is received, a budget is assigned to fit the student's particular situation.

The information forms submitted are used to compute the financial strength of the family and/or student. A nationally accepted need analysis system, approved by the U. S. commissioner of education, is used.

This analysis yields the amount the student and/or family is expected to contribute toward yearly costs. The family contribution is based upon the need analysis computation rather than the statement by the parents of ability to contribute. All students are expected to contribute toward their own expenses.

The last step in the need analysis is to subtract from the budget the student/parent contribution. The remainder, if any, is known as "financial aid eligibility" or "financial need." Aid may not exceed this amount.

In case the number of applications for NDSL or College Work-Study positions exceed the money available, preference will be given to those with the greatest financial aid eligibility.

The means, including forms, by which application for student financial assistance is made and requirements for accurately preparing such application are:

1. Dependent Students, defined as those carried on their parents' income tax form last year, must submit:
   a. Student Aid Application for California;
   b. copy of parents' current 1040 income tax return form;
   c. processed Pell Grant application (if undergraduate); and
   d. if receiving social security, veterans' benefits, welfare, etc., a letter from the agency showing amounts payable.
2. Independent Students, defined as those who have received no financial support from parents during the past year and who are not carried on the parents' income tax form, must submit:
   a. Student Aid Application for California;
   b. copy of student 1040 income tax return form; and
   c. processed Pell Grant form (if undergraduate).
3. Application periods for general financial aid:
   from January 1 to March 1 for next academic year;
   from November 1 to November 15 for spring semester only;
   from March 1 to April 1 for summer sessions.
4. Application for Pell Grants:
   Students obtain the application form from the Financial Aid Office and submit it to the address shown on the form itself, or check the appropriate item on the Student Aid Application for California. The response to the application, called the "Student Aid Report" (SAR), will be returned to the student. Bring all three copies of the SAR to the Financial Aid Office.
5. Application for Guaranteed Student Loan:
   Applications are accepted after June 1 for the fall semester and academic year and December 7 for the spring semester.
6. Emergency loan applications are accepted when the emergency arises.
7. Filling out the aid forms:
   a. Income figures for last year and the current year will need to be provided. Therefore, it is suggested that the student/parent gather together in one place both the current year's and last year's income tax returns. The student/parent will need to submit a copy of the current year's return.
   b. To complete the Student Aid Application for California use "0" where zero is meant, and enter "N/A" when a question is not applicable.

Rights and Responsibilities of Students Receiving Aid

Rights:

1. All students are entitled to and are guaranteed fair and equitable treatment in the awarding of

financial aid. In addition, there shall be no discrimination of any kind. Appeals procedures exist for anyone who feels that a violation has occurred. Consult the director of financial aid.

2. All students have the right to receive full and open information about various financial aid programs and their eligibility therefor. In addition, they have the right to know the selection and review processes used in awarding financial aid.
3. All students have the right to know the costs of attending the institution, the refund policies in case of withdrawal, the academic programs offered by the university, the faculty and physical facilities of the institution and data regarding student retention at the university.

Responsibilities:

1. All financial aid recipients agree to carry and complete a specific number of units each semester, report graduation or withdrawal, and notify the Financial Aid Office of any changes in their financial or marital status, or unit load.
2. Recipients of financial aid must use the funds only to meet education costs. Any other use of the funds is prohibited by law.
3. Students receiving aid must maintain satisfactory academic progress.

All students receiving financial aid are expected to maintain certain standards. A student is considered to be in good standing and maintaining satisfactory progress when enrolled in and successfully completing the number of units for which financial assistance is being received.

INTERNATIONAL EDUCATION

The Office of International Education and Exchange is the principal office for information and assistance for all foreign nationals and those students who plan to study overseas.

Foreign Students

Each year the university attracts applications from persons in foreign countries and currently more than 50 nations are represented. Special services are provided for these students and include orientation to the university; assistance with the resolution of academic and personal problems; help to comply with governmental regulations; and initiation of cocurricular activities. The office prepares documents for entering the United States, applications for extensions of stay and change of status. Requested letters of standing for foreign consulates and institutions are also provided.

All foreign students are required to have proficiency in the use of the English language necessary for successful academic work and sufficient funds to cover all expenses of the first year at the university, including adequate health insurance coverage. An English placement examination is held before registration for all new students. (See section on admission of foreign students.)

Study Overseas

Information about opportunities to study in foreign universities is available in the Office. The director of international education and exchange coordinates the selection of students applying for admission to one of the foreign university programs operated by The California State University and Colleges. (See also section on International Programs.)

A library of current programs sponsored by other institutions is maintained for student reference.

HANDICAPPED STUDENT SERVICES

Located in a custom designed Handicapped Student Center on the first floor of the Library, this office provides assistance and offers services to all handicapped/disabled students. The goal of this program is to make full educational, cultural, social and physical facilities of the university available to students with orthopedic and/or perceptual handicaps/disabilities.

A full range of services is available in cooperation with other university departments—a learning resource center and lounge, priority registration, orientation, interpreters, attendant/reader/note-taker referral services, counseling, career planning, academic advisement, housing, transportation, handicapped parking and job placement. The purpose is to provide necessary services and assistance that will eliminate or significantly reduce barriers resulting from the mobility and perceptual problems encountered by most handicapped/disabled students. The program serves as a centralized source of information and provides individual attention to students. It is staffed by personnel experienced in the particular needs of the handicapped/disabled.

In order to sustain a quality program, this office needs and encourages the involvement and input from the students it serves.

Information regarding special facilities and services available to handicapped students may be obtained from the Handicapped Student Center.

ALUMNI AFFAIRS

The Alumni Association was established to serve the general interests of the university, its administration, faculty, student body and alumni. Anyone graduating from the university is automatically a member of the association. The association seeks to promote programs which support lifelong learning and good will in the community and to support fund-raising activities.

The association provides a number of tangible benefits for members, publishes a quarterly newsletter, *The Titan Alumni News,* and honors outstanding student, staff, faculty and alumni achievement. Further information about membership and programs may be obtained by calling the Office of Alumni Affairs.

OFFICE OF VETERANS' SERVICES

The Office of Veterans' Services was established to aid and assist all veterans, who are not now participating in a postsecondary educational experience. Functioning under an institutional award from the U.S. Department of Education, the office is charged with the responsibilities of (1) outreach, (2) recruitment, (3) special programs and (4) counseling. In addition, it assists and aids veterans in registration, tutoring, benefit advisement, educational opportunities, housing and job placement (both on and off campus).

The program director of veterans' services may be contacted in the Veterans' Services Office.

WOMEN'S CENTER

The Women's Center provides support, information and resources to help women explore the many options available today. Its goals are to provide: (1) a caring, supportive atmosphere to help develop meaningful friendships, share experiences, and enhance personal growth; (2) information and referrals to community and campus agencies; (3) individual and group counseling; (4) expansion of self-competence in making personal, educational and career choices; and (5)programs and workshops which reflect the special concerns of women's changing life patterns. Though the Women's Center is designed to serve the specific needs of women, it is open to all interested men. For more information, visit or call the Women's Center.

ADULT RE-ENTRY CENTER

The Adult Re-entry Center (ARC) is a contact point for the adult student or prospective student who is seeking information about educational and career options. This program is designed to meet the special needs of people who have had a break in their education, and are now considering entering or re-entering college. ARC offers a variety of programs for the re-entry person, including peer counseling, workshops, support groups, and referrals to staff and faculty. Operating through the Women's Center ARC invites both women and men to participate in its programs. Visit or call for more information.



ADMISSION REGISTRATION RECORDS AND REGULATIONS

ADMISSION TO THE UNIVERSITY

OFFICE OF ADMISSIONS AND RECORDS

The Office of Admissions and Records is responsible for the administration of the admission, registration, records, and relations with schools and colleges programs and services for undergraduate and graduate students in the regular sessions of California State University, Fullerton. These programs and services are to provide preadmission guidance to prospective students; to provide current information about the university's curricula and requirements to school and college counselors; to admit and readmit students within enrollment categories and priorities; to evaluate the applicability of undergraduate transfer credit toward all-university requirements of the curriculum; to provide liaison in the identification and resolution of articulation problems of transfer students; to register student programs of study, including enrollment into classes; to maintain academic records; to administer academic probation and disqualification policies; to provide enrollment certifications on student request, including transcripts of academic records, to the Veterans Administration and for other purposes; to certify the completion of degree and credential requirements; to receive petitions for exceptions to academic regulations; and to provide information about these programs and services.

ADMISSIONS PROCEDURES AND POLICIES

Requirements for admission to California State University, Fullerton are in accordance with Title 5, Chapter 1, Subchapter 3, of the *California Administrative Code*. If you are unsure of your status under these requirements please consult a high school or college counselor or our admissions office. Applications may be obtained from the admissions office at any of the campuses of The California State University or at any California high school or community college.

Undergraduate Application Procedures

All prospective students must file an application form, with fee, as described in the application booklet. This is true for all students: part-time, full-time, in day or evening classes. The $30 application fee, which cannot be refunded, should be in the form of a check or money order payable to The California State University (CSU) and cannot be used to apply to another term.

You may file an application at your first-choice campus of the CSU only. You may list an alternative major and an alternative campus, or both, on your application form. But you should list only alternatives in the CSU that you will accept if your first choice campus cannot accommodate you. Usually, you will be considered by your first-choice campus in an alternative major before we send your application to an alternative campus. Such consideration is automatic.

Postbaccalaureate and Graduate Application Procedures

All applicants for any type of postbaccalaureate or graduate status (e.g., master's degree applicants, those seeking credentials, and those interested in taking courses for personal or professional growth) must file, within the appropriate filing period, a complete application including all of the required forms and fees described in the application booklet. Those who completed undergraduate degree requirements and graduated the preceding term must also complete and submit an application and the $30 nonrefundable fee. Since applicants for postbaccalaureate programs may be limited to the choice of a single campus on each application, redirection to alternative campuses or later changes of campus choice will be minimal. Applicants who wish to be assured of initial consideration by more than one campus, should submit a separate application (including fee) to each.

Postbaccalaureate applicants seeking second baccalaureates are considered undergraduate applicants for purposes of application and admission procedures.

Application materials may be obtained from the Office of Admissions and Records or the Graduate Studies Office of any of the campuses of The California State University.

Admission Categories; Impacted Programs

Admission categories and program limits have been established by some campuses, in some majors, where the number of applicants is expected to exceed campus resources. At Fullerton, categories have been established for students who are: first-time freshmen; freshmen and sophomore under-

graduate transfer applicants; junior and senior undergraduate transfer applicants; impacted program applicants; special program applicants; hardship applicants; and foreign students. Also, there are program limits in some graduate programs.

After admission and enrollment, requests for change to a different (i.e., a new) academic objective involving established admission categories will be evaluated following policies and procedures parallel to those for new students.

Impacted programs are those in which applications received in the first month of the filing period exceed the total spaces available, either locally (at an individual campus) or systemwide. You must make application for an impacted program during the first month of the filing period and may file more than one application and fee. Nonresidents, foreign or domestic, usually are not considered for admission to impacted programs.

High school and community college counselors are advised before the opening of the fall filing period which programs will be impacted.

Supplementary Admission Criteria

Each campus with impacted programs uses supplementary admission criteria in screening applicants. Campuses are authorized to use a freshman applicant's ranking on the eligibility index, the transfer applicant's overall grade-point average, or a combination of campus-developed supplementary criteria in selecting those to be admitted. If you are a freshman applicant and plan to apply to an impacted program, you should take the ACT or SAT test at the earliest date. Your test scores and your grades earned in the final three years of high school may be used in determining admission to the program. The supplementary admission criteria used by the individual campuses to screen applicants appear periodically in the *CSU School and College Review* and are sent by the campuses to all applicants seeking admission to an impacted program.

Unlike unaccommodated applicants to locally impacted programs, who may be redirected to another campus in the same major, unaccommodated applicants to systemwide impacted programs may not be redirected in the same major but may choose an alternative major either at the first choice campus or another campus.

At the time of the preparation of this catalog, the undergraduate majors in business administration (all concentrations) and in computer science at Fullerton were declared impacted as defined in this section.

How to Apply

1. Submit a completed application for admission within the announced filing period accompanied by the required application fee to:
   Office of Admissions and Records
   California State University, Fullerton
   Fullerton, California 92634
2. Request required transcripts of record of all previous scholastic work from each school or college attended when asked to do so by the admissions office. The transcripts required at Fullerton are:
   —for undergraduate applicants with fewer than 56 transferable semester units—
   (a) the high school transcript, and
   (b) a transcript from each college or university attended.
   —for undergraduates with 56 or more transferable semester units—
   (a) a transcript from each college or university attended.
   —for graduates—
   (a) applicants for unclassified postbaccalaureate standing with no degree or credential objective must submit a transcript from the college or university where the baccalaureate was earned. Further, one transcript from other institutions attended is required as necessary so that the university has a complete record of the last 60 semester units attempted prior to enrollment at Fullerton.
   (b) applicants for a master's degree or teaching credential, or both, must submit two copies of the transcript from each college or university attended.

Note: In addition, all students should have a personal set of college transcripts for advising purposes. All transcripts must be received directly from the issuing institutions and become official records of the university; such transcripts therefore cannot be returned or reissued. Foreign language transcripts must be accompanied by certified English translations.

3. All undergraduate students who have completed fewer than 56 semester or 84 quarter units of transferable work are required to submit scores from either one of two national testing programs before eligibility for admission to the university can be determined. This requirement does not affect undergraduate students who have previously attended Fullerton and who have submitted ACT or SAT scores at the time of their first admission.

   Registration forms and test dates for either test may be obtained from school or college counselors, from the address below, or from campus testing offices. For either test, submit the registration form and fee at least one month prior to the test date.

ACT Address	*SAT Address*
American College Testing Program, Inc. Registration Unit, P.O. Box 168 Iowa City, Iowa 52240	College Entrance Examination Board P.O. Box 592 Princeton, New Jersey 08541

   Applicants to classified graduate curricula must submit the scores of any qualifying examinations required in their prospective programs of study.

Application Filing Periods

Terms	*Filing Period Begins*	*Filing Period Duration*
Fall	The previous November	Until application
Spring	The previous August	categories are filled

Applicants who file by June 1 for fall terms, or by November 1 for spring terms, may participate in early registration (by mail) for classes.

Space Reservations

Applicants who can be accommodated will receive letters acknowledging their application. The letters are not statements of admission but are commitments by Cal State Fullerton to admit the applicants who establish their eligibility for admission. The acknowledgment letters direct applicants to arrange to have appropriate records forwarded promptly to the admissions office. Applicants should not request that any records be forwarded until they have received a space reservation notice. Space reservation notices are mailed by the university to those who apply in November for fall terms in December, and to those who apply in August for spring terms in September. Applicants filing after initial filing periods will normally receive their acknowledgments within two weeks of the receipt of their applications.

Space reservations may not be transferred to other terms or campuses.

Hardship Petitions

Fullerton has established procedures to consider qualified applicants who would be faced with an extreme hardship if not admitted. Prospective hardship petitioners should write to the director of admissions regarding specific policies governing hardship admission.

ADMISSION REQUIREMENTS FOR FIRST-TIME FRESHMEN

We need to know two things about you to learn if you are eligible to enroll as a freshman: (1) your high school grade-point average (for the final three years of high school, not counting physical education or military science) and (2) either your composite score from the American College Test (ACT) or your total score from the Scholastic Aptitude Test (SAT). We use these to figure an eligibility index. You can calculate your index by multiplying your grade-point average by 200 and adding 10 times your ACT composite. Or, if you took the SAT, multiply your grade-point average by 800 and add your SAT total score.

Residents—If you graduated from a California high school or are a legal resident of California for tuition purposes, you need a minimum eligibility index of 741 using the ACT or 3072 using the SAT. The following table shows examples of grade-point averages and test scores needed to qualify.

If your high school grade-point average as defined above is better than 3.2 you are not required to submit test scores for admission purposes.

Nonresidents—If you are neither a graduate of a California high school nor a resident for tuition purposes, you need a minimum eligibility index of 826 (ACT) or 3402 (SAT).

If your high school grade-point average as defined above is better than 3.6 you are not required to submit test scores for admission purposes.

Eligibility Index Alternative—As an alternative to calculating an eligibility index, California residents (or graduates of California high schools) may use the following table to determine their eligibility.

ADMISSIONS TABLE FOR CALIFORNIA HIGH SCHOOL GRADUATES OR CALIFORNIA LEGAL RESIDENTS

GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score
(—) *			2.80	19	832	2.39	27	1160
3.20	11	512	2.79	19	840	2.38	27	1168
3.19	11	520	2.78	19	848	2.37	27	1176
3.18	11	528	2.77	19	856	2.36	27	1184
3.17	11	536	2.76	19	864	2.35	28	1193
3.16	11	544	2.75	20	872	2.34	28	1200
3.15	12	552	2.74	20	880	2.33	28	1208
3.14	12	560	2.73	20	888	2.32	28	1216
3.13	12	568	2.72	20	896	2.31	28	1224
3.12	12	576	2.71	20	904	2.30	29	1232
3.11	12	584	2.70	21	912	2.29	29	1240
3.10	13	592	2.69	21	920	2.28	29	1248
3.09	13	600	2.68	21	928	2.27	29	1256
3.08	13	608	2.67	21	936	2.26	29	1264
3.07	13	616	2.66	21	944	2.25	30	1272
3.06	13	624	2.65	22	952	2.24	30	1280
3.05	14	632	2.64	22	960	2.23	30	1288
3.04	14	640	2.63	22	968	2.22	30	1296
3.03	14	648	2.62	22	976	2.21	30	1304
3.02	14	656	2.61	22	984	2.20	31	1312
3.01	14	664	2.60	23	992	2.19	31	1320
3.00	15	672	2.59	23	1000	2.18	31	1328
2.99	15	680	2.58	23	1008	2.17	31	1336
2.98	15	688	2.57	23	1016	2.16	31	1344
2.97	15	696	2.56	23	1024	2.15	32	1352
2.96	15	704	2.55	24	1032	2.14	32	1360
2.95	16	712	2.54	24	1040	2.13	32	1368
2.94	16	720	2.53	24	1048	2.12	32	1376
2.93	16	728	2.52	24	1056	2.11	33	1384
2.92	16	736	2.51	24	1064	2.10	33	1392
2.91	16	744	2.50	25	1072	2.09	33	1400
2.90	17	752	2.49	25	1080	2.08	33	1408
2.89	17	760	2.48	25	1088	2.07	33	1416
2.88	17	768	2.47	25	1096	2.06	33	1424
2.87	17	776	2.46	25	1104	2.05	34	1432
2.86	17	784	2.45	26	1112	2.04	34	1440
2.85	18	792	2.44	26	1120	2.03	34	1448
2.84	18	800	2.43	26	1128	2.02	34	1456
2.83	18	808	2.42	26	1136	2.01	34	1464
2.82	18	816	2.41	26	1144	2.00	35	1472
2.81	18	824	2.40	27	1152	(—) †		

* Above 3.20 eligible with any score.
† Below 2.0 not eligible.

Early Admission

California State University, Fullerton will authorize an early admission commitment to students whose grade-point average in the 10th and 11th grades of high school is 3.75 or better in all course work, except military science and physical education. Students given an early admission commitment notice are assured admission upon graduation from high school. Interested high school students may inquire about the program at the Office of Admissions and Records.

Graduates of Secondary Schools in Foreign Countries

Applicants who are graduates of foreign secondary schools must have preparation equivalent to that required of eligible California high school graduates. The university will carefully review the previous record of all such applicants and only those with promise of academic success equivalent to that of eligible California high school graduates will be admitted.

Non-High School Graduates

Applicants over 18 years of age, but who have not graduated from high school, will be considered for admission as first-time freshmen only when preparation in all other ways is such that the university believes promise of academic success is equivalent to that of eligible California high school graduates.

High School Students

Students still enrolled in high school will be considered for enrollment in certain special programs, including summer session, if recommended by their principal and if in the judgment of the appropriate academic department and the Office of Admissions and Records their preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given course or program; students must apply for admission as freshmen to enroll after high school graduation.

NEW ADMISSION REQUIREMENTS EFFECTIVE FALL 1984

Additional admission requirements become effective for first-time freshman applicants for fall 1984 and later. In addition to the grade-point average and test score requirements described above, the first-time freshman applicant must complete eight semesters of college preparatory English and four semesters of college preparatory mathematics (including algebra and geometry) during secondary school.

A few applicants may not have had the opportunity to take all of the required courses by 1984. The CSU will make some exceptions to the subject requirements during 1984–85 and 1985–86 for those who cannot complete all of them in the time remaining in high school.

Recommended Preparation

Overall excellence of performance in high school subjects and a test score giving evidence of academic potential provide the best bases for predicting success at Cal State Fullerton. While no specific course pattern is required until fall 1984, all prospective freshmen are strongly encouraged to include the following subjects in their preparation for work at Cal State Fullerton: college preparatory English; another language; mathematics, including algebra and geometry; laboratory science; history or social science (or both); and study in speech, music, art and other subjects contributing to a well-rounded academic background.

In addition to the foregoing general recommendations for preparation for university studies, the members of the faculty in certain departments have made further specific recommendations for those considering majoring in the following fields of study.

Business Administration: A minimum of three years of mathematics including a second course in algebra; four years strongly encouraged.

Elementary Credential Candidates: Algebra, geometry, one year of natural science recommended.

Engineering: Algebra (two years), geometry, trigonometry, and one year of chemistry. One year of physics, and additional mathematics are desirable. Also, foreign languages are desirable, but not required.

English: A minimum of four years of English courses, each course emphasizing basic elements of essay writing, two courses joining composition work to the analysis and interpretation of literature.

Foreign Language: Up to five years in the proposed language of study.
Mathematics: Four years of mathematics including geometry, trigonometry, and two years of algebra.
Religious Studies: A minimum of three years of English, four years strongly encouraged. Comparative religion or the Bible as English literature if offered.
Science: Four years of mathematics, three years of foreign language, and a year of chemistry are strongly recommended.

ADMISSION REQUIREMENTS FOR UNDERGRADUATE TRANSFER STUDENTS

If you are in good standing at the last college or university attended, you are eligible for admission if you meet either of the following provisions:

1. you are eligible as a freshman (see freshman requirements) and have a grade-point average of C (2.0 where A equals 4.0) or better in all transferable college units attempted, or
2. you have completed at least 56 transferable semester units, or 84 transferable quarter units, with a grade-point average of C or better if a California resident; nonresidents must have a grade-point average of 2.40 or better.

If you are transferring from a California community college you should ask your counselor about transferability of courses.

Visitor Enrollment

Students enrolled at other campuses of The California State University may enroll at Fullerton while concurrently enrolled at their home campus or as visitors. Information about eligibility requirements, enrollment conditions, and application forms are available from the office of admissions and records at the home campus.

Other Applicants

Applicants not admissible under one of the above provisions should enroll in a community college or other appropriate institution. Only under the most unusual circumstances, and then only by special action, will such applicants be permitted to enroll in the university.

SPECIAL NOTICE TO ALL FRESHMAN AND SOPHOMORE APPLICANTS

All entering freshman and sophomore students must complete the CSU English Placement Test. The test requirement applies to all lower division students (those who enroll with fewer than 56 transferable semester units) with the exception of students who present:

- satisfactory scores on the CSU English Equivalency Examination (such students are notified by mail).
- scores of 3, 4 or 5 on the English Composition Examination of the College Board Advance Placement Program.
- a score of 600 or above on the College Board Achievement test in English Composition *with essay.*
- a score of 510 or above on the Verbal section of the College Board Scholastic Aptitude Test (SAT-Verbal).
- a score of 23 or above on the ACT English Usage Test.
- completion of an acceptable college course in English composition of three semester units with a grade of C or better.

The results of this test do not affect admissions eligibility. For those who are required to take the examination, it is a prerequisite to English 99, English 101 and Communications 103. The results will be used, however, to provide information to the university and to students to aid in the selection of courses in writing skills and to prepare for the graduation requirement in writing. The Office of Admissions and Records will mail announcements about the test to eligible freshmen and sophomores.

SPECIAL NOTICE TO ALL UNDERGRADUATE APPLICANTS

All undergraduate students entering Cal State Fullerton in the fall semester 1983 and later must demonstrate basic competence in mathematics. New freshmen and transfer students may do so by completing successfully the CSU Entry-level Mathematics Examination (ELM). They may do so by either completing with a grade of C or better a certified general education course in mathematics (intermediate algebra or above) or by successfully completing the ELM Examination or an approved alternative examination.

Information bulletins about the ELM Examination will be mailed to all students subject to the requirement. Those required to take the examination should do so as soon as possible after admission (the results do not affect eligibility for admission). Students who do not demonstrate basic competence in mathematics on the examination are required to take steps to overcome deficiencies early in their university enrollment and need to know that course work undertaken to acquire the required competence will not apply to bachelor's degrees.

ADMISSION REQUIREMENTS FOR POSTBACCALAUREATE AND GRADUATE STUDENTS

Postbaccalaureate Unclassified—You qualify for admission as an unclassified postbaccalaureate student if you (1) hold an acceptable bachelor's degree from a regionally accredited institution or have equivalent preparation as determined by the appropriate campus authority; (2) have a grade-point average of at least 2.50 (A equals 4.0) in your last 60 semester (90 quarter) units; and (3) are in good standing at the last college you attended. In unusual circumstances, the campus may make exceptions to these criteria.

Admission to California State University, Fullerton with postbaccalaureate unclassified standing does not constitute admission to graduate degree curricula.

Postbaccalaureate Classified—If eligible in unclassified standing, you may qualify for classified postbaccalaureate standing to enroll in a credential or certificate program, provided you satisfy the additional professional, personal, scholastic, and other standards, including qualifying examinations, as the appropriate campus authority may prescribe.

Graduate Conditionally Classified—If eligible for admission in postbaccalaureate unclassified standing, but with deficiencies that in the opinion of the appropriate campus authority you can meet by additional preparation, you may qualify for admission to a graduate degree curriculum as a conditionally classified graduate.

Graduate Classified—If eligible for admission in postbaccalaureate unclassified standing, you may qualify for a graduate degree curriculum as a classified graduate student if you satisfactorily meet the professional, personal, scholastic and other standards for admission, including qualifying examinations, as the appropriate campus authority may prescribe.Only those applicants who show promise of success and fitness will be admitted to graduate degree curricula, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness shall be eligible to proceed in such curricula.

Second Master's Degree—A graduate student desiring to work for a second master's degree or second concentration must request permission before applying for admission. See the "Graduate Regulations" section of this catalog.

ADMISSION REQUIREMENTS FOR STUDENTS FROM OTHER COUNTRIES

Normally, the university accepts for consideration only two categories of applicants with foreign student visas:

1. those who have completed, with a good academic record, a two-year program in an accredited institution of higher education; or
2. those who have completed a bachelor's degree or its equivalent, with a good academic record, in an accredited institution and wish to enroll as graduate students.

Persons applying from their home countries are normally considered for admission to the fall semester only. Those transferring from U.S. institutions may apply to the fall or spring semesters.

All applicants whose native language is other than English are required to present a satisfactory score on the Test of English as a Foreign Language (TOEFL). Applicants should obtain the *TOEFL Bulletin of Information* and registration forms well in advance. Copies of this bulletin and registration forms are often available at American embassies and consulates, offices of the United States Information Service, United States educational commissions and foundations abroad, bi-national centers, and several private organizations. Those who cannot obtain locally a *TOEFL Bulletin of Information* should write to: Test of English as a Foreign Language, Box 899, Princeton, New Jersey, U.S.A. 08541.

Application procedures in other respects are the same as for other students, except that transcripts of educational documents in languages other than English must be accompanied by translations into English certified by independent agencies.

ADMISSION REQUIREMENTS FOR SUMMER SESSION STUDENTS

Although the quality of the program and most of the course offerings are the same as in the regular session, the university does not require an advance application or transcripts from students registering for credit courses in the summer session. Students normally must be high school graduates, however, and are expected to have satisfied the prerequisites for the courses in which they register. In addition, students are expected to file a request to register in the summer session. Admission to summer session does not grant admission to the regular session.

READMISSION OF FORMER STUDENTS

A student previously enrolled in the university, planning to return after an absence of more than one semester, must file a new application for admission. A student absent for one semester, and who enrolls elsewhere in the interim, must also file an application for readmission. Unless a leave of absence was granted, catalog requirements at the time of readmission will apply. Please see the "Stop-Out Policy" section in the regulations subchapter of this catalog for further information on applications for readmission.

Former Students in Good Standing

A student who left the university in good standing will be readmitted provided any academic work attempted elsewhere since the last attendance does not change his or her scholastic status. Transcripts of the record of any work attempted in the interim are required.

Former Students Who Were on Probation

A student on probation at the close of the last enrollment will be readmitted on probation provided he or she is otherwise eligible. The student must furnish transcripts of any college work taken during the absence.

Former Students Who Were Disqualified

The readmission of a previously disqualified student is by special action only. Ordinarily the university will consider an application for reinstatement only after the student has remained absent for a minimum of one year following disqualification and has fulfilled all recommended conditions. In every instance, readmission is based on evidence, including transcripts of study completed elsewhere after disqualification, that in the judgment of the university warrants such action. If readmitted, the student is placed on scholastic probation.

GENERAL INFORMATION ABOUT ADMISSION AND EVALUATIONS OF ACADEMIC RECORDS

Records Retention

The university retains the admissions materials for those who apply but who for whatever reason do not enroll for two years. For those who do enroll the university will retain the materials in student folders, including transcripts of the record of work completed elsewhere, for five years beyond the date of last attendance.

Records of academic performance at California State University, Fullerton, including individual student records, faculty grade lists, and graduation lists are kept permanently.

Determination of Residence for Nonresident Tuition Purposes

New and returning students of The California State University are classified for the purpose of determining the residence of each student for nonresident tuition purposes. Responses to items on the Application for Admission and, if necessary, other evidence furnished by the student are used in making this determination. A student may not register and enroll in classes until responses to these items have been received by the admissions office.

The following statement of the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for tuition purposes by The California State University is found in the Education Code, Sections 68000–68090, 90403, 89705–89707.5, 68123 68124, and 68121, and in Title 5 of the *California Administrative Code,* Article 4 (commencing with Section 41900) of Subchapter 5 of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus admissions office.

Legal residence may be established by an adult who is physically present in the state while, at the same time, intending to make California his or her permanent home. Steps must be taken at least one year prior to the residence determination date to evidence the intent to make California the permanent home with concurrent relinquishment of the prior legal residence. An intention to establish and maintain California residence can be shown by registering to vote and voting in elections in California; satisfying resident California state income tax obligations on total income; ownership of residential property or continuous occupancy or letting of an apartment on a lease basis where one's permanent belongings are kept; maintaining active resident memberships in California professional or social organizations; maintaining California vehicle plates and operator's license; maintaining active savings and checking accounts in California banks; maintaining permanent military address and home of record in California if one is in the military service, etc.

The student within the state for educational purposes only does not gain the status of resident regardless of the length of the stay in California.

In general, the unmarried minor (a person under 18 years of age) derives legal residence from his or her parents, or, in the case of permanent separation of the parents, from the parent with whom the minor maintains the place of abode. The residence of a minor cannot be changed by act of the minor or that of the minor's guardian, so long as the minor's parents are living.

A man or a woman may establish his or her residence; marriage is not a governing factor.

Nonresident students seeking reclassification are required by law to complete a supplemental questionnaire concerning financial independence.

The general rule is that a student must have been a California resident for at least one year immediately preceding the residence determination date in order to qualify as a resident student for tuition purposes. At the Fullerton campus, the residence determination date for fall terms is September 20, and for spring terms is January 25.

There are several exceptions for nonresident tuition. Some of the exceptions provide for:

1. Persons below the age of 19 whose parents were residents of California but who left the state while the student was still a minor. When the minor reaches age 18, the exception continues for one year to enable the student to qualify as a resident student.
2. Persons who have been present in California with the intent of acquiring residence for more than a year before the residence determination date, and entirely self-supporting for that period of time.
3. Persons below the age of 19 who have lived with and been under the continuous direct care and control of an adult, not a parent, for the two years immediately preceding the residence determination date. Such adult must have been a California resident for the most recent year.
4. Dependent children and spouses of persons in active military service stationed in California on the residence determination date. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year. The exception, once attained, is not affected by transfer of the military person directly to a post outside the state.
5. Military personnel in active service stationed in California on the residence determination date for purposes other than education at state-supported institutions of higher education. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.
6. A student who is an adult alien is entitled to residence classification if the student has been

lawfully admitted to the United States for permanent residence in accordance with all applicable provisions of the laws of the United States; provided, however, that the student has had residence in California for more than one year after such admission prior to the residence determination date. A student who is a minor alien shall be entitled to residence classification if both the student and the parent from whom residence is derived have been lawfully admitted to the United States for permanent residence in accordance with all applicable laws of the United States, provided that the parent has had residence in California for more than one year after acquiring such permanent residence prior to the residence determination date of the term for which the student proposes to attend the university.

7. Certain credentialed, full-time employees of California school districts.
8. Full-time California State University employees and their children and spouses. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.
9. Certain exchange students.
10. Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the course of law enforcement or fire suppression duties.

Any student, following a decision on the residence classification, may request a review of the decision by the dean of admissions and records. Following a final decision on the Fullerton campus, the student may make written appeal to:

The California State University
Office of the General Counsel
400 Golden Shore
Long Beach, California 90802

within 120 calendar days of notification of the final decision on campus of the classification. The Office of General Counsel may make a decision on the issue, or it may send the matter back to Fullerton with instructions for further review. Students classified incorrectly as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is subject to discipline pursuant to Section 41301 of Title 5 of the *California Administrative Code*. Resident students who become nonresidents, and nonresident students qualifying for exceptions whose basis for so qualifying changes, must immediately notify the admissions office. Applications for a change in classification with respect to a previous term are not accepted.

The student is cautioned that this summation of rules regarding residency determination is by no means a complete explanation of their meaning. Changes may have been made in the rate of nonresident tuition, in the statutes, and in the regulations between the time this catalog is published and the relevant residence determination date.

Admission to Credential Programs

Admission to the university as a student does not constitute admission to the teaching credential program. Students who plan to work toward teaching credentials must apply to the Division of Teacher Education following procedures available from the division.

Cancellation of Admission

A student admitted to the university for a given semester but who does not register in the specified semester will have the admission canceled. The student must file a new application form when again seeking admission and must follow the complete application procedure and meet the then current admission requirements.

Honors at Entrance

Honors at entrance are awarded to both freshman and transfer students who have demonstrated outstanding achievement in past academic work. For first-time freshmen with no previous college units earned, a grade point of 3.5 on a five-point scale must be earned in the course work considered for admission to the university. Students who have completed fewer than 56 transferable semester units of credit must meet the grade-point average criteria for first-time freshmen and must also have earned a 3.5 grade-point average on all college work attempted. Students who have completed 56 or more transferable semester units are eligible if a grade-point average of 3.5 is earned in all college work completed.

Evaluation of Transfer Credits

The Office of Admissions and Records will evaluate previous college work in relation to the requirements of Fullerton. All degree candidates will be issued a credit summary during the first semester of attendance which serves as a basis for determining remaining requirements for the student's specific objectives. The admissions office will convert quarter units of credit transferred to the university to semester units by multiplying quarter-unit totals by two-thirds.

Once issued to a student, the evaluation remains valid as long as the student enrolls at the date specified, pursues the objective specified, and remains in continuous attendance. The student will not be held to additional graduation requirements unless such requirements become mandatory as a result of changes in the *California Administrative Code* or the *California Education Code*. If the student does not remain in continuous attendance and has not applied for and been granted a formal leave of absence, the evaluation issued upon readmission will specify the remaining requirements for the student's objectives.

In view of the foregoing regulations, the student should notify the Office of Admissions and Records immediately of a change in the objective specified in the evaluation. While the evaluation for a student remains valid, the student is held responsible for complying with all changes in regulations and procedures which may appear in subsequent catalogs.

Acceptance of Credit

Credit for work completed at accredited institutions, other than course work identified by such institutions as remedial or in other ways as being nontransferable, will be accepted toward the satisfaction of baccalaureate degree and credential requirements at the university within limitations of residence requirements and community college transfer maximums.

Transfer of Credit From a Community College

Upper division credit is not allowed for courses taken in a community college. Credential credit is not allowed for courses in professional education taken in a community college. This does not invalidate credit for preprofessional courses taken at a community college, such as introduction to education, art or design, arithmetic, or music for classroom teachers. After a student has completed 70 units of college credit at a community college, no further community college units may be accepted for unit credit.

Credit for Noncollegiate Instruction

Students who have been in active military service for at least one year may be granted six or 12 units of undergraduate credit. Courses taken in military service schools and other noncollegiate institutions may be given credit on the basis of an evaluation which determines that they are of university level as recommended by the Commission on Educational Credit and Credentials of the American Council on Education. Any credit for such experience will be given only upon request. Records verifying such experience must be filed with the Office of Admissions and Records.

Credit for Extension and Correspondence Courses

The maximum amount of credit through correspondence and extension courses which may be allowed toward the bachelor's degree is 24 units, if otherwise applicable.

Credit by Advanced Placement

Students who have successfully completed courses in the advanced placement program of the College Entrance Examination Board (defined as receiving a score of 3, 4 or 5) shall be granted credit for each advanced placement course toward graduation, advanced placement in the university's sequence of courses, and credit for curriculum requirements.

Advanced Placement Course	*Equivalent Course: CSUF*	*Semester Units*
American History	History 170A,B	6
Art History	Art 201B	3–6 *
Studio Art	Art 103 or 104	

* Consult the Department of Art for applicability of advanced placement examination credit.

	Art 107A or 107B	
Biology	Biological Science 101	4 **
Chemistry	Chemistry 120A,B (lecture)	6 ***
English	English 101	3
	English 110, 111, or 112	3
European History	History 110B	3
French	French 101, 102	10
German	German 101, 102	10
Latin 4	Latin 101	3
Latin 5	Latin 101, 102	6
Mathematics A & B	Mathematics 150A	4
Mathematics B & C	Mathematics 150A,B	8
Physics	Physics 211A,B	6
Spanish	Spanish 101, 102	10

College Level Examination Program

The university shall accept three semester units of credit for each of the following College Level Examination Program (CLEP) examinations, subject to achievement of the scores indicated, provided the examination was not taken previously within one calendar year and that degree credit has not been granted for previous course work at the equivalent or at a more advanced level than for the examination in question.

Examination	*Passing score*
Mathematics General Exam (1975 edition)	50 (on both parts of the examination)
College Algebra-Trigonometry	49
Introductory Calculus and Analytic Geometry	48
Statistics	49
General Chemistry	48

Fullerton may grant additional credit and advanced standing based upon CLEP examination results using as minimum standards:

General Examinations

1. That the student achieve a score at or above the 50th percentile, college sophomore norms.
2. That no unit credit be granted for any test in the general examinations, but that up to six units of general education requirements be waived for each test completed with the appropriate score.

Subject Examinations

1. That the student submit a score at or above the 50th percentile of those in the norming group who earned a mark of C or better.
2. That equivalency to Fullerton courses be determined by the appropriate academic department in conjunction with the Office of Admissions and Records.
3. That university credit shall have not been previously earned in the courses in question.

In no case will credit so awarded count toward residence credit.

English Equivalency Examination

Students passing the California State University English Equivalency Examination shall be awarded six semester units of credit provided credit has not been granted previously at the equivalent or at more advanced levels. Further, those who pass this optional examination are exempt from the requirement to take the English Placement Test.

Science/Mathematics Equivalency Examinations

Students may receive credit by examination in general mathematics, calculus-analytic geometry, statistics, chemistry, biology, and calculus by passing California State University-approved examina-

** Consult the Department of Biological Sciences for applicability of advanced placement examination credit.

***To complete the requirement for Chemistry 120A, B, the student must successfully complete four units of Chemistry 120A and 120B laboratory at Cal State Fullerton.

tions. Each test offers those who pass three semester units of credit, provided credit has not previously been granted at the equivalent or at more advanced levels.

Examination	*Equivalent Course*	*Semester Units*
General Biology	Biological Science 101	3
General Chemistry	Chemistry 100	3
Statistics	Mathematics 120	3
Calculus	Mathematics 130,150A	3
General Mathematics	Elective credit in mathematics	3

Further, students completing the American Chemical Society Cooperative Examination with a score at the 50th percentile or above will receive three units of credit equivalent to the lecture portion of Chemistry 115.

REGISTRATION

Orientation

Various opportunities are provided for new students to obtain information relating to academic programs, student services and activities, and other aspects of university life. Information about specific programs will be published separately.

Registration

Class Schedule: A complete listing of courses offered will be found in the class schedule published prior to the start of each semester. This publication, which may be purchased in the Titan Bookstore, also states detailed information pertaining to the semester including class enrollment and fee payment procedures.

It is important that students familiarize themselves not only with the academic policies stated in this catalog but also with the requirements and procedures in the class schedule as both are used in the selection of classes for the semester.

Registration: Registration is made up of two steps—class enrollment and fee payment, and may be accomplished through early registration by mail, walk-through registration in the week preceding the first day of instruction, or through late registration during the first two weeks of instruction. Most students should find early registration by mail advantageous.

At registration, every student is required to file a study program with the Office of Admissions and Records. The filing of a program by the student and its acceptance by the university obligates the student to perform the designated work to the best of his or her ability. It is emphasized that registration does not become official until all fees have been paid.

Computerized Records System

The student records system, including the registration process, uses the computer. It is a fact of life in a large institution such as Fullerton that use of the computer is essential. Thus, there are requirements for data cards, code numbers, student file numbers and for meeting precise criteria for recording data, which introduce impersonal elements in the student records system. Despite these conditions, every effort is made to provide courteous, efficient and personalized service to students and the entire university community. To assist in providing this service, students are urged to be careful and accurate in preparing forms, especially the official program and change of program forms. Accurate preparation of information will assure each student of error-free records.

Controlled Entry Classes

In general, all courses listed in the semester class schedule shall be available to all matriculated students except for appropriate academic restrictions as stated in the schedule and the catalog. These restrictions, including special qualifications and other academic limitations, on class entry shall be published in the class schedule as appropriate footnotes to the designated class or class section and shall be consistent with the catalog.

Late Registration

The last day to register late each semester will be announced in the class schedule. Late registrants will find themselves handicapped in arranging their programs and must pay a $25 late registration fee in addition to regular fees.

Changes in Program After Registration

Each student is responsible for the program of courses listed at registration. Changes may be made thereafter only by filing of a change of program form in the Office of Admissions and Records following procedures announced in the class schedule.

Students may add classes to their programs of study during the first two weeks of instruction. They may drop classes without record of enrollment through the first four weeks. After the 20th day of instruction the university expects students to complete all courses in which they are enrolled. If after the 20th day students must withdraw, they are subject to the "Withdrawal" policy contained in the "Records and Regulations" subchapter of this catalog. In all instances, dropped classes must be

reported to the Office of Admissions and Records; students not attending class are not dropped automatically.

Concurrent Enrollment

A student enrolled at the university may enroll concurrently for additional courses at another institution only with advance written approval from the student's academic adviser on official forms obtained from the Office of Admissions and Records. Permission will not be granted when the study load in the proposed combined program of study exceeds the units authorized at this university.

Enrollment at Other CSU Campuses

Fullerton students may enroll at other campuses of The California State University either while concurrently enrolled at Fullerton or as visitors. There are certain eligibility requirements and enrollment conditions that must be met, including completion of at least one semester at Fullerton and being in good academic standing. Information and application forms may be obtained from the Office of Admissions and Records.

Auditors

A properly qualified student may enroll in classes as an auditor. The student must meet the regular university admission requirements and must pay the same fees as other students. See the description of *Audit* in the "Administrative Symbols" section of this catalog.

Handicapped Students

Students physically handicapped who require assistance should consult the Handicapped Student Services Center prior to the announced semester registration period so that special arrangements for them can be made.

VETERANS

California State University, Fullerton is approved by the Bureau of School Approvals, State Department of Education, to offer programs to veterans seeking benefits under state and federal legislation. All students seeking veterans' benefits must have a degree or credential objective.

Applications for benefits should be filed well in advance of the semester in which the veteran plans to use these benefits to have the authorization at the time of registration.

RESERVE OFFICER TRAINING CORPS

California State University, Fullerton does not have a Reserve Officer Training Corps program. However, through arrangements with Loyola Marymount University; the University of California, Los Angeles; and the University of Southern California, two-, three- and four-year Air Force Reserve Officer Training Corps (AFROTC) programs and scholarships are available to all qualified undergraduate students of the university.

Further, in cooperation with the University of California, Los Angeles; California State University, Long Beach; and The Claremont Colleges, Army ROTC programs and scholarships are available to Fullerton students at these three institutions. Academic units earned in these programs are counted as elective credit towards the baccalaureate. Additional information may be obtained from the Office of Admissions and Records.

SCHEDULE OF FEES, 1983–84

Tuition is not charged to legal residents of California. The 1983–84 and 1984–85 schedule of fees will be published in the class schedules for those years. The following are the fees and nonresident tuition assessed at the time of preparing this catalog.

All Students

Application fee (nonrefundable)
Payable by check or money order at time application is made $30
Student services fee $108
State University fee ..... *Semester*
0 to 5.9 units $45

6.0 or more units 139
Facilities fee 3
Associated Students fee 13
University Union fee 18
Instructionally related activity fee 5

Nonresident and Foreign Visa Students
Nonresident tuition fee (in addition to fees charged all students)
Per unit $105

Summer Session
Course fee per unit ..... see current bulletin
Associated Students fee $3
University Union fee 5

Extension Fees
Per unit ..... see current bulletin

Other Fees or Charges
Campus service card $3
Late registration fee (in addition to other fees listed above) 25
Check returned from bank for any cause 10
Transcript fee 4
Graduation and diploma fee 15
Failure to meet administratively required appointment or time limit 2
Miscellaneous course fee. ..... A few courses require fees for registration
Consult the current class schedule for further information.

Auditors pay the same fees as others.
Fees are subject to change by the Trustees of The California State University without advance notice.

Alan Pattee Scholarships

Children of deceased public law enforcement or fire suppression employees, who were California residents and who were killed in the course of law enforcement or fire suppression duties, are not charged fees or tuition of any kind, according to the Alan Pattee Scholarship Act, *Education Code* Section 68121. Students qualifying for these benefits are known as Alan Pattee scholars. For further information, consult the dean of admissions and records, who determines eligibility.

Waiver of Fees

Section 32320 of the *California Education Code* provides for the waiver of certain fees other than nonresident tuition, for certain veterans' dependents. Those who meet one or more of the following criteria should present to the university registrar a certificate of eligibility obtained from the Division of Educational Assistance, California Department of Veterans Affairs, on or before the date of registration.

A. Children of veterans who have service-connected disabilities and whose annual income not including governmental compensation for such service-connected disability does not exceed $5,000.
B. Children of veterans killed in action or because of a service-connected disability, where the annual income of such children, including the value of any support received from parents and the annual income of surviving parents, does not exceed $5,000. No limitations on age or length of residency.

Refund of Fees

Details concerning the fees which may be refunded, and the circumstances under which fees may be refunded, may be obtained by consulting Section 41803 (parking fees), 41913 (nonresident tuition), and 41802 (all other fees) of Title 5, *California Administrative Code.* In all cases it is important to act quickly in applying for a refund.

Information concerning the policy and appropriate procedure to be followed in seeking a refund may be obtained from the office of the registrar.

Parking Fees

Semester pass (nonreserved spaces):	
Regular and limited students (4-wheeled vehicle)	$22.50
Regular and limited students (2-wheeled vehicle)	5.65
Coin operated gate per exit	.50
Summer session (4-wheeled vehicle)	15.00
Summer session (2-wheeled vehicle)	3.75

Typical Student Expenses

Typical school year budgets for California residents living at home or making other housing arrangements will vary widely. It is estimated that, including a $3,300 yearly allowance for room and board, and $400 for books and supplies, the total cost will approximate $5,300 for an unmarried person. Nonresident students must also allow for nonresident tuition.

The Student Services Fee

The student services fee provides financing for the following student services not covered by state funding.

1. *Social and Cultural Development Activities.* Provides for the coordination of various student activities, student organizations, student government and cultural programs.
2. *Counseling.* Includes the cost of counselors' salaries and clerical support, plus operating expenses and equipment.
3. *Testing.* Covers the cost of test officers, psychometrists, clerical support, operating expenses, and equipment.
4. *Placement.* Provides career information to students and faculty for academic program planning and employment information to graduates and students.
5. *Financial Aids Administration.* Includes the cost of the counseling and business services provided in connection with the financial aid programs.
6. *Health Services.* Provides health services to students and covers the cost of salaries of medical officers and nurses and related clerical and technical personnel, as well as operating expenses and equipment.
7. *Housing.* Supports personnel who provide housing information and monitor housing services available to students.
8. *Student Services Administration.* Covers 50 percent of the cost of the office of the dean of student services, which has responsibility for the overall administration of student services.

Procedure for the Establishment and Abolishment of the Associated Students Fee

The law governing The California State University provides that a student body fee may be established by student referendum with the approval of two-thirds of those students voting. The Associated Students fee was established at California State University, Fullerton by student referendum in December 1959. The same fee can be abolished by a similar two-thirds approval of students voting on a referendum called for by a petition signed by 10 percent of the regularly enrolled students (*Education Code*, Section 89300). The level of the fee is set by the chancellor who may approve a fee increase only following a referendum approved by a majority of the students. The Associated Students fee supports a variety of cultural and recreational programs, child care centers and special student support programs.

AVERAGE ANNUAL COSTS AND SOURCES OF FUNDS PER FULL-TIME EQUIVALENT STUDENT

The 19 campuses and the Chancellor's Office of The California State University are financed primarily through funding provided by the taxpayers of California. Including capital outlay, the CSU 1982–83 budget totals approximately $1.2 billion. Approximately $1.18 billion of the total has been budgeted to provide support for a projected 239,900 full-time equivalent (FTE*) students. Thus, excluding costs which relate to capital outlay and the Energy and Resources Fund (e.g., building amortization), the average cost per FTE student is $4,974 per year. Of this amount, the average student pays $710. Included in this average student payment calculation is the amount paid by nonresident students. The remaining $4,237 in costs is funded by state and federal taxes.

Averages do not fit all students alike or even any specific student. To arrive at an average figure that is meaningful, the costs outlined above exclude "user fees" for living expenses, housing and parking as well as costs for extension and summer session work. Computations are based on full-time equivalent students, not individuals, and costs are prorated by system totals, not by campus. The average costs for a full-time equivalent student in the system are shown in the following chart:

TOTAL 1982–83 CSU BUDGET (PROJECTED ENROLLMENT: 239,900 FTE)

Funding Source	Amount	Average Cost Per Student (FTE)*	Percentage
State Approp. (Support)	$970,118,453	$4,044	81.7 %
Student charges	170,233,339	710 **	14.4 %
Federal (Financial Aids)	46,337,429	193	3.9 %
State Funding (Capital Outlay and Energy and Resources Fund)	18,803,000	***	***
Total	$1,205,492,221	$4,947	100.0 %

* For budgetary purposes, full-time equivalent (FTE) translates individual enrollment into total academic student load. The term assumes that a full-time student in The California State University is enrolled for 15 units of academic credit. Some students enroll for more than 15 units; some students enroll for fewer than 15 units.

** The average costs paid by a student include the student services fee, health facilities fee, college union fee, student body fee, application fee, catalog fee, State University Emergency Fee, and the non-resident tuition. This amount is derived by taking the total of all student fees and dividing by the total full-time equivalent student enrollment. Individual students may pay more or less than $710 depending on whether they are part-time, full-time, resident or non-resident students.

*** Average Cost Per Student (FTE) and Percentage columns are not calculated for this funding source. The estimated replacement cost of all the system's permanent facilities and equipment on the 19 campuses is currently valued at $4.1 billion, excluding the cost of land.

RECORDS AND REGULATIONS

STUDENT RESPONSIBILITY

Each student is responsible for meeting the requirements printed in the university catalog and all published regulations of the university.

The university establishes certain academic policies and requirements which must be met before a degree is granted. These include major and unit requirements and prerequisites. While advisers, directors, deans and faculty will provide a student with information and advice, responsibility for meeting these requirements rests with the student. Since failure to satisfy these requirements may result in the degree being withheld, it is important for each student to become thoroughly acquainted with all regulations. The catalog and the semester class schedule, available in the Titan Bookstore, are the best sources of information on current policy and regulations.

The student also has the responsibility for securing the consent of the instructor before enrolling in a course with prerequisites that the student has not completed.

To insure receipt of timely information and accurate grade reports from the university, each student must keep the Office of Admission and Records informed of changes in personal data, including changes in name, address and program of study. Each student is mailed a student data verification each semester during the third week of classes to ensure the accuracy of official enrollment for that term; corrections must be reported to the registrar by the 20th day of classes, using the Change of Program form. Corrections should be reported on the form and returned to the Office of Admissions and Records.

ENROLLMENT DEFINITIONS AND REGULATIONS

Unit of Credit

Each semester unit represents three hours of university work per week for one semester. Courses are of three types:

(1) Lecture—one hour in class plus two hours of study.
(2) Activity—two hours of class plus one hour of study.
(3) Laboratory—three hours in class.

Some courses may combine two or more of these types. All required courses carry unit credit.

Classification in the University

Undergraduate students who have completed 0–29 semester units of work are classified as freshmen, 30–59 semester units as sophomores, 60–89 semester units as juniors, and 90 or more as seniors.

Maximum Number of Course Units

Undergraduate students' requests to enroll for more than 19 units must be approved by the student's adviser and the department chair of the major. If such requests are denied, appeals may be made to the appropriate school dean. (Undeclared majors must receive the approval of the director of academic advisement.) The minimum full-time program is 12 units.

A student whose academic record justifies a study list in excess of the normal may request to be allowed to enroll for extra units. Request forms may be obtained from the Office of Admissions and Records. In general, only students with superior academic records are allowed to enroll for more than the maximum. In addition, the need to enroll for the extra study must be established. Factors such as time spent in employment or commuting, the nature of the academic program, extracurricular activities and the student's health should be considered in planning a study program. Students who are employed or have outside responsibilities are advised to reduce their program of study.

The minimum and maximum units of a full-time program of study for graduate students are defined in the "Graduate Programs" section of this catalog.

Undergraduate Students Taking Graduate Level Courses

Graduate level (500) courses are organized primarily for graduate students. Undergraduate students may be permitted to enroll in a graduate level course if:

1. they are within nine units of completion of graduation requirements, or

2. they are exceptionally qualified seniors whose undergraduate work in the related field or fields has been of 3.5 grade-point average or better, and whose cumulative overall grade-point average is at least 3.25.

Such cases shall require specific approval by the instructor and also the chair of the department or dean of the school in which the course is offered and by the chair or dean of the student's major department or school.

Graduate level courses taken under 1 above may be applied to a graduate program if approved under graduate studies policies.

Graduate level courses taken under 2 above may be applied to the undergraduate program only.

Class Attendance

While class attendance is not recorded officially by the university, regular attendance in class is often essential to success in a course. The policy on class attendance is within the discretion of the individual faculty member and shall be announced by the faculty member at the first class meeting of the semester.

Initial Class Meeting

It is especially important that students attend the first meeting of a class. Students absent from the first meeting and who fail to notify the instructor or departmental office no later than 24 hours after the class meeting may be denied admission to the class. Instructors may deny admission to absentees to admit persons on waiting lists.

Instructor-Initiated Drops

A student who registers for a class and whose name appears on the first day-of-class list should attend all class meetings in the first week. If the student is absent without notifying the instructor or departmental office within 24 hours after any meeting missed during that week, the student may then be dropped administratively from the class by the instructor. An instructor may also administratively drop a student who does not meet prerequisites for the course. These administrative withdrawals shall be without penalty and must be filed by the instructor with the registrar no later than the 20th day of instruction.

GRADING POLICIES

Grading System

Every student of the university will have all course work evaluated and reported by the faculty using letter grades or administrative symbols.

The university uses a combination of traditional and nontraditional grading options as follows:

Traditional

Option 1. Letter grades, defined as:

A—outstanding performance
B—above average performance
C—average performance
D—below average performance, though passing
F—failure

Nontraditional

Option 2. CR (Credit) for satisfactory (equivalent to C or better in undergraduate courses; B or better in graduate courses.) and NC (No Credit) for less than satisfactory work.

When, because of circumstances, a student does not complete a particular course, or withdraws, certain administrative symbols may be assigned by the faculty. Grades and symbols are listed in the chart below together with grade-point values. The chart also illustrates the academic bookkeeping involved for all grades and symbols used.

Selection of Grading Option

Selection of a grading option, with certain exceptions, is the responsibility of the student. Graduate students must use option 1 for courses that are on study plans leading to master's degrees. Undergraduates must use option 1 for major, minor and general education requirements.

Exceptions are those courses designated by the faculty to be graded solely on an option 2 basis.

These courses will be so designated in the class schedule (and shall not be changed by the faculty after publication of the class schedule) for each semester and may be included in major, core, or special program requirements.

Students shall inform the registrar up to the end of the fourth week of classes regarding the selection of grading options in designated courses. If a student does not do so, option 1 will be used.

The faculty shall grade all students using the traditional A, B, C, D, or F grades except in Credit/No Credit courses, and the registrar shall make the necessary changes from A, B, C, D or F, converting A, B, C to Credit, and D and F to No Credit in undergraduate courses and A, B to Credit, and C, D, and F to No Credit in graduate courses. In those courses offered only on a Credit/No Credit basis, the instructor shall assign grades of CR or NC or appropriate administrative symbols.

Nontraditional Grade Option

A nontraditional grading option is available to undergraduate students, nonobjective graduate students, and to classified graduate students for courses not included in the approved study plan. Any student attempting a course using the nontraditional grading option must meet the prerequisites for that course. Each student shall be permitted to select courses in subjects outside of the major, minor, and general education requirements for enrollment on a Credit/No Credit basis (grading option 2). The phrase "major requirements" shall be taken to include core plus concentration (or option) requirements in departments using such terms, and professional course requirements in teacher education curricula. A student in any one term may take one course under option 2. In addition, he or she may enroll in a required course offered only under option 2; however, a maximum of 36 units of Credit/No Credit courses including those transferred from other institutions may be counted toward the baccalaureate.

Under option 2 the term "Credit" signifies that the student's academic performance was such that he or she was awarded full credit in undergraduate courses with a quality level of achievement equivalent to a C grade or better. In all graduate level courses *Credit* signifies academic performance equivalents to B or A grades. *No Credit* signifies that the student attempted the course but that the performance did not warrant credit toward the objective.

Ordinarily, a student shall be limited to one nonmajor course per term using this option, exclusive of courses offered only on a Credit/No Credit basis.

When an undergraduate student changes his or her major field of study to one where he or she has completed courses with CR grades, such lower division courses shall be included in major requirements. Upper division courses may be included at the option of the department upon petition by the student.

Grade or Symbol	Units Attempted	Units Earned	Grade Point Value	Full Credit
Option 1				
A	Yes	Yes	4	Yes
B	Yes	Yes	3	Yes
C	Yes	Yes	2	Yes
D	Yes	Yes	1	No
F	Yes	No	0	No
Option 2				
CR	*	Yes	None	Yes
NC	*	No	None	No
Administrative Symbols				
I (Incomplete authorized)	†	No		
U (Unauthorized incomplete)	Yes	No	0	No
W (Withdrawal)	No	No	None	No
WF (Withdrawal)	Yes	No	0	No
AU (Audit)	No	No	None	No
SP (Satisfactory progress)	No	No	None	No
RD (Report delayed)	No	No	None	No
TOTALS	*Used In GPA*	*Counted in Objective*	*Used Toward GPA*	

* Credit/No Credit course units are not included in grade-point computations.

† If not completed within one calendar year the I will be changed to an F (or NC).

ADVISORY CAUTION: Undergraduate students who plan to pursue graduate or professional studies later are advised to be selective in opting for courses on a credit/no credit basis. As a general rule (advisory only), course work that is preparatory or prerequisite to advanced specialized study should be completed and evaluated on a letter grade basis and not Credit/No Credit.

ADMINISTRATIVE SYMBOLS

Incomplete Authorized (I)

The symbol I signifies that a portion of required course work has not been completed and evaluated in the prescribed time period owing to unforeseen but fully justified reasons and that there is still a possibility of earning credit. It is the responsibility of the student to bring pertinent information to the instructor and to reach agreement on the means by which the remaining course requirements will be satisfied. A final grade is assigned when the work agreed upon has been completed and evaluated.

An Incomplete must be made up within one calendar year immediately following the end of the term in which it was assigned. This limitation prevails whether or not the student maintains continuous enrollment. Failure to complete the assigned work will result in an Incomplete being changed to an F or an NC.

A grade of Incomplete may be given only when, in the opinion of the instructor, a student cannot complete a course during the semester of enrollment for reasons beyond the student's control. Such reasons are assumed to include: illness of the student or of members of the student's immediate family, extraordinary financial problems, loss of outside position, and other exigencies. In assigning a grade of I, the instructor shall file with the department for future reference and student access a Statement of Requirements for Completion of Course Work. The requirements shall not include retaking the course. The instructor will also designate a time limit (up to one year) for completing requirements. Upon request, a copy of the document will be furnished to the student. The student should review this statement at the earliest opportunity.

The statement of requirements will include an indication of the quality of the student's work to date. This not only provides an interim evaluation for the student but assists the department chair in assigning a final grade in those instances where the instructor is no longer available.

When the specific requirements are completed, the instructor will report a change of grade. The responsibility for changing the incomplete grade rests with the instructor.

Withdrawal (W,WF)

Students may withdraw from class during the first 20 days of instruction without record of enrollment. After the first 20 days of classes, students should complete all courses in which they are enrolled.

The university authorizes withdrawal after the census date and prior to the last three weeks of instruction only with the approval of the instructor and the department chair or school dean. All requests for permission to withdraw and all approvals shall be made in writing on the Change of Program form and shall be filed at the Office of Admissions and Records by students or their proxies.

The student withdrawing from class after the census date shall receive a grading symbol of W or WF. The symbol *W* signifies that the student dropped the course after the 20th day of instruction and that the quality of performance at the time of withdrawal was C or better. The symbol *WF* signifies that the student dropped the course after the 20th day of instruction and that the quality of performance at the time of withdrawal was below C. W's are not counted in grade point average calculations; WF's are counted in the same way as F grades. When signing the Change of Program form, the instructor shall indicate to the student whether W or WF will be given.

Students may not withdraw during the final three weeks of instruction except in cases, appropriately documented, such as accident or serious illness, where the assignment of an Incomplete is not practicable. Ordinarily, withdrawals of this nature will involve withdrawal from all classes except that Credit or Incomplete Authorized (I) may be assigned for courses in which students have completed sufficient work to permit an evaluation to be made. Requests for permission to withdraw

from all classes under these circumstances, with authorizations as described above, shall be made on the Change of Program form and shall be filed by the students (or their proxies) with the Office of Admissions and Records.

Unauthorized Incomplete (U)

The symbol U indicates that an enrolled student did not withdraw from the course but failed to complete course requirements. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. For purposes of grade-point average computations this symbol is equivalent to an F.

A student may petition for a retroactive withdrawal provided the student can document both the serious and compelling reason or circumstances that required the withdrawal and the date of such withdrawal. Such a petition must be filed within 30 days after the first class day of the following semester.

Petitions for retroactive withdrawal may be submitted for withdrawal in individual courses.

> **ADVISORY NOTE:** Students who unofficially withdraw and who are receiving financial aid or benefits which are dependent on completion of specified course units are advised that they may have such benefits suspended and may be subject to repayment of allowances received after date of unofficial withdrawal.

Audit (AU)

The symbol AU is used by the registrar in those instances where a student has enrolled in a course either for information or other purposes not related to the student's formal academic objective. Enrollment as an auditor is subject to the permission of the instructor, provided that enrollment in any course as an auditor shall be permitted only after students otherwise eligible to enroll in the course on a credit basis have had an opportunity to do so. Auditors are subject to the same fees as credit students and regular class attendance is expected. Once enrolled as an auditor, a student may not change to credit status unless such a change is requested prior to the last day to add classes. A student who is enrolled for credit may not change to audit after the fourth week of instruction. An auditor is not permitted to take examinations in the course; therefore, there is no basis for evaluation nor a formal grade report.

Satisfactory Progress (SP)

The SP symbol is used in connection with thesis, project or similar courses that extend beyond one academic term. It indicates that work is in progress, and has been evaluated and found to be satisfactory to date, but that assignment of a final grade must await completion of additional course work. Cumulative enrollment in units attempted may not exceed the total number applicable to the student's educational objective. Work is to be completed within a stipulated period which may not exceed one year except for graduate degree theses or projects for which the time may be longer, but may not exceed the overall limit for completion of all master's degree requirements. Any extension of time must receive prior authorization by the dean of the school (or the dean's designee) in which the course is offered.

Report Delayed (RD)

The RD symbol is used where a delay in the reporting of a final grade is due to circumstances beyond the control of the student. The symbol is assigned by the registrar and will be replaced as soon as possible. An RD shall not be included in calculation of a grade-point average.

GRADING RECORDS

Grade Reports to Students

A report of the final grades assigned in classes is sent to each student at the end of each semester. Many students also leave self-addressed post cards for instructors of specific courses to send them earlier reports.

Class Grade-Point Averages

Beginning with the fall semester 1978, information is included on student grade reports and permanent academic records that is intended to depict the level of achievement of students in relation to other students in a particular class. The information is displayed in parentheses before each course grade. The first set of figures indicates the number of students officially completing the course and the second set is the class grade-point average. In making the computations, marks of W, I, CR, NC, and SP are excluded. This same information is displayed for summer session classes, but not for extension or intersession classes sponsored by the Office of Extended Education.

Examinations

Final examinations, if required by the instructor, will be given at times scheduled by the university. Once established, the final examination schedule may not be changed unless approved by the dean of the school. No makeup final examination will be given except for reason of illness or other verified emergencies.

Credit by Examination

Students may be granted credit toward the baccalaureate and to meet curriculum requirements in certain designated courses by the satisfactory completion of challenge examinations in the courses. The examinations are to be comprehensive and administered by the sponsoring departments. Well in advance of the semester in which a challenge examination is to be administered, the student, using the appropriate university form, will secure written approval of his or her major adviser and the chair of the department in which the course is offered. In general, prior work or academic experience will be required.

Courses to be offered as challenge examinations will be determined by the academic departments. Matriculated students may either enroll in these courses during registration or add them during the first two weeks of the semester. The examination must be administered not later than the end of the third week of instruction.

Upon successful completion of the examination, the instructor will report the grade of CR. Students who fail the challenge examination may elect to continue the course for credit or may officially withdraw from the course through the normal class withdrawal procedure. The challenge examination for any course may be administered only once.

A maximum of 30 credits can be earned by challenge examination, including those earned by advanced placement. Credit by examination may not be used to fulfill the minimum residence requirements.

Grade-Point Averages

The numerical grade-point values in the grading system chart are intended to give an exact determination of a student's scholastic standing. To compute the grade-point average for course work at Fullerton, the grade-point value of each grade, with the exception noted in the "Repetition of Courses" section, is multiplied first by the unit value of each course to obtain a total of all grade points earned. The total is then divided by the total units attempted in all courses in which grades of A, B, C, D or F were received. The resulting figure is the grade-point average.

Repetition of Courses

Undergraduate students may repeat courses at California State University, Fullerton for which D or failing grades were earned either at Cal State Fullerton or at other institutions; in repeating such courses, the traditional grading system shall be used. In computing the grade point average of a student who repeats courses in which he or she received D or failing grades, only the most recently earned grades and grade points shall be used for the first 16 units repeated. Nevertheless, the original grade on the academic record shall not be changed or eradicated.

In exercising this option, an undergraduate student must repeat the course at Cal State Fullerton and may request application of this policy when a course has been repeated. This should be accomplished using the appropriate petition form, immediately following the term in which the course has been completed, so that the student's grade-point average can be revised. In the absence of student petitions, courses successfully repeated are routinely credited by the Office of Admissions and Records during degree requirement reviews at the time of graduation.

In the case of any repetition beyond the 16-unit limit or in courses for which a C or better grade was awarded, both grades are considered in computing grade-point averages. Successful repetition

of a course originally passed carries no additional unit credit toward a degree or credential except for certain courses such as independent study, practicum, or other courses specified in this catalog as "may be repeated for credit."

Students transferring from other colleges where courses were taken and repeated may be eligible for consideration under this policy. In general, the policy of the college where the course was repeated shall be followed; however, units for the courses taken and repeated at the transfer institution are included in the 16-unit limitation.

Grade Changes

The university recognizes the long-standing prerogatives of faculty to set standards of performance and to apply them to individual students. The university will seek to correct injustices to students but at the same time believes that the instructor's judgment at the time the original grade is assigned is better than a later reconsideration of an individual case. Equity to all students is of fundamental concern. The following policies apply to changes of grades except for changes of Incomplete Authorized and Unauthorized Incomplete symbols.

1. In general, all course grades are final when filed by the instructor in the end-of-term course grade report. Each student is notified by mail of the grades earned during the term, and these grades become a part of the official record.
2. A change of grade may occur only in cases of clerical error, administrative error, or where the instructor reevaluates the original course assignments of a student and discovers an error in the original evaluation. A clerical error is an error made by the instructor or an assistant in calculating or recording the grade. A change of grade shall not occur as a consequence of the acceptance of additional work or reexamination beyond the specified course requirements.
3. A request for a change of grade shall be initiated by the student affected and shall be directed to the instructor within 60 calendar days of the first day of classes of the regular semester following the award of the original grade. If the instructor determines that there is a valid basis for the change, a Change of Grade form shall be used to notify the Office of Admissions and Records. These forms are available in department offices. If the instructor determines that there is not a valid basis for the change, and denies the student's request, the instructor's decision is final. The student may file a petition with the Academic Appeals Board on the basis of capricious or prejudicial treatment by the instructor.
4. The Change of Grade form completed and signed by the instructor, noting the basis for the change, shall not be accepted by the registrar unless approved separately by the department chair and school dean.
5. If a request for change of grade is initiated after 60 calendar days into the following semester, it will be approved only in extraordinary circumstances. An explanation of such circumstances must accompany the request and must be approved separately by the instructor, department chair, and the dean before the acceptance by the registrar.

Academic Dishonesty

Academic dishonesty (usually cheating or plagiarism) almost always involves an attempt by a student to show possession of a level of knowledge or skill which he or she does not possess.

Cheating is defined as the act of obtaining or attempting to obtain credit for work by the use of any dishonest, deceptive, or fraudulent means. Examples of cheating include, but are not limited to: using notes or aids or the help of other students on tests and examinations in ways other than those expressly permitted by the instructor, plagiarism as defined below, and tampering with the grading procedures.

Plagiarism is defined as the act of taking the specific substance of another and offering it as one's own without giving credit to the source. When sources are used, acknowledgment of the original author or source must be made following standard scholarly practice.

The initial responsibility for detecting and dealing with academic dishonesty lies with the instructor concerned. An instructor who believes that an act of academic dishonesty has occurred is obligated to discuss the matter with the student involved. The instructor should possess reasonable evidence, such as documents or personal observation. However, if circumstances prevent consultation with the student, the instructor may take whatever action, subject to student appeal, the instructor deems appropriate.

An instructor who is convinced by the evidence that a student is guilty of academic dishonesty shall:

1. Assign an appropriate academic penalty. This may range from an oral reprimand to an F in the course. To the extent that the faculty member considers the academic dishonesty to manifest the student's lack of scholarship and to reflect on the student's academic performance and academic integrity in a course, the student's grade should be adversely affected. Suggested guidelines for appropriate actions are an oral reprimand in cases where there is reasonable doubt that the student knew that his or her action constituted academic dishonesty; an F on the particular paper, project or examination where the act of dishonesty was unpremeditated, or where there was significant mitigating circumstances, or an F in the course where the dishonesty was premeditated or planned.
2. Report to the student involved, to the department chair, and to the dean of student services the alleged incident of academic dishonesty, including relevant documentation, and make recommendations for action that he or she deems appropriate.

The dean of student services shall maintain an academic dishonesty file of all cases of academic dishonesty with the appropriate documentation. Students shall be informed when their names are inserted into the file and provided with copies of any appeals or disciplinary procedures in which they may become involved. The dean of student services or his or her designees may initiate disciplinary proceedings under Title 5, *California Administrative Code,* Section 41301, and Chancellor's Executive Order 148; when two or more incidents involving the same student occur, he or she shall do so. Opportunities for appeal regarding sanctions resulting from disciplinary proceedings are provided by Executive Order 148.

A student may appeal any action taken on a charge of academic dishonesty under the University Policy Statement 300.030, "Academic Appeals." If the Academic Appeals Board decides that a student is innocent of academic dishonesty, then no entry shall be made in the academic dishonesty file.

If the Academic Appeals Board decides either that a student is innocent of academic dishonesty, or that a faculty member has acted arbitrarily or capriciously towards a student, it shall instruct the faculty member to meet with his or her department chair and, if appropriate, the dean of the school for the purpose of reassessing the student's performance. If the faculty member refuses to do so, the matter shall be referred to an ad hoc committee, to be established by the department, which shall have ultimate authority to act in the case.

ACADEMIC RENEWAL

Under certain circumstances, the university may disregard up to two semesters or three quarters of previous undergraduate course work taken at any college or university from all considerations associated with requirements for the baccalaureate. These circumstances are

1. that the student has requested the action formally and has presented evidence that work completed in the terms under consideration is substandard and not representative of present scholastic ability and level of performance; and
2. that the level of performance represented by the terms under consideration was due to extenuating circumstances; and
3. that there is every evidence that the student would find it necessary to complete additional terms to qualify for the baccalaureate if the request were not approved.

Final determination that one or more terms shall be disregarded in the determination of eligibility for graduation shall be based upon a careful review of evidence by the Review Committee for Academic Renewal and shall be made only when:

1. five years have elapsed since the most recent work to be disregarded was completed; and
2. the student has completed at Fullerton, since the most recent work to be disregarded was completed, 15 semester units with at least a 3.0 grade-point average, or 30 semester units with at least a 2.5 GPA, or 45 semester units with at least a 2.0 GPA. Work completed at another institution cannot be used to satisfy this requirement.

When such action is taken, the student's permanent academic record shall be annotated so that it is readily evident to all users of the record that no work taken during the disregarded terms, even if satisfactory, may apply toward baccalaureate requirements. All work must remain legible on the record ensuring a true and complete academic history.

TRANSCRIPTS

Official transcripts of courses taken at the university are issued only with the written permission of the student concerned. Partial transcripts are not issued. A fee of $4 for each transcript issued must be received before the transcript can be issued.

Normally, transcripts are available within three working days, except at the end of the semester when the student should allow about 10 days after the last day of the semester.

Transcripts from other institutions, which have been presented for admission or evaluation, become a part of the student's permanent academic file and are not returned or copied for distribution. Students desiring transcripts covering work attempted elsewhere should request them from the institutions concerned.

CONTINUOUS RESIDENCY REGULATIONS

Good Standing

Good standing indicates that a student is eligible to continue and is free from financial obligation to the university. A student under academic disqualification, disciplinary suspension or disciplinary expulsion is not eligible to receive a statement of good standing on transcripts issued by the university or on other documents.

Choice of Catalog Regulations for Meeting Degree Requirements

A student remaining in continuous attendance in regular sessions and continuing in the same curriculum at any campus of the California community colleges or in any combination of California community colleges and campuses of The California State University may, for purposes of meeting graduation requirements, elect to meet the graduation requirements of such campuses from which he or she will graduate in effect either at the time of entering the curriculum or at the time of graduation therefrom, except that substitutions for discontinued courses may be authorized or required by the proper university authorities.

Stop-Out Policy

With certain exceptions, undergraduate students and postbaccalaureate unclassified students may be absent for one semester and maintain their continuing student status. This includes election of catalog requirements for graduation and eligibility to register for the next semester. The exceptions are as follows:

Disqualified Students—Students who are disqualified at the end of a semester and have not been reinstated will not receive registration materials; they must apply for readmission, and if admitted, may be subject to new catalog requirements.

Foreign-Visa Students—Students with foreign visas are required to maintain continuous enrollment. The stop-out policy is not applicable.

Students absent for more than one semester, as well as those who attend another institution while absent for any period, must apply for readmission should they wish to return to Fullerton.

Leave of Absence

A student may petition for a leave of absence and, if approved, may upon return continue under the catalog requirements that applied to the enrollment prior to the absence. A leave of absence may be granted for a maximum of one year. Illness is the only routinely approved reason for a leave of absence. Students should realize that an approved leave of absence does not reserve a place for them in the university; they must reapply.

Complete Withdrawal from the University

A student who wishes to withdraw from the university during a semester must complete a Change of Program form. See the section on refund of fees for possible refunds. No student may withdraw after the date shown on the university calendar as the last day of instruction. Complete withdrawal from the university is accomplished by following the procedures for dropping classes.

STUDENT HONORS

Dean's Honor List

Academic achievement is recognized with the publication each semester of a list of undergraduate students whose grade-point averages for the previous term were 3.5 or better. Students are notified in writing when they have earned this distinction. Eligibility is based on a minimum of 12 units of graded course work.

Honors Programs

The general education honors program offers students the opportunity to earn recognition for distinguished academic performance in the specified honors curriculum. In order to graduate with honors in general education, a student must complete the university's general education requirements (including 33 units of courses with the honors (H) designation) and maintain a grade-point average of 3.0 in all honors classes and in the major.

Certain departments sponsor departmental honors programs within their disciplines. These programs require successful work in specific courses as well as some form of culminating project.

Upon graduation, Honors students receive a certificate of honors from the university president and an appropriate notation is made on both the student's diploma and permanent record.

Honors at Graduation

Honors at graduation for baccalaureate recipients are based on overall performance and have been defined by the Faculty Council in three classifications:

With honors	GPA 3.5
With high honors	GPA 3.85
With highest honors	GPA 4.0

RETENTION, PROBATION AND DISQUALIFICATION

For purposes of determining a student's ability to remain in the university both quality of performance and progress towards the educational objective will be considered.

Academic Probation

An undergraduate student shall be placed on academic probation if in any semester the cumulative grade-point average or the grade-point average at Fullerton falls below 2.0 (grade of C on a five-point scale). The student shall be advised of probation status promptly and, except in unusual instances, before the start of the next consecutive enrollment period.

An undergraduate student shall be removed from academic probation and restored to clear standing upon achieving a cumulative grade-point average of 2.0 in all academic work attempted, in all such work attempted at Fullerton, and is making satisfactory progress towards his or her educational objective.

A postbaccalaureate student (credential, unclassified, or undeclared status [but not second baccalaureate degree students]) shall be subject to academic probation if after completing 12 or more units his or her postbaccalaureate cumulative grade point average for units attempted at California State University, Fullerton falls below a 2.50 average. The GPA will determine whether a student is subject to probation only after the student has completed 12 semester units.

A graduate student enrolled in a graduate degree program in either conditionally classified or classified standing shall be subject to academic probation if he or she fails to maintain a cumulative grade point average of at least 3.0 (grade of B on a five-point scale) in all units attempted after admission to the program.

Academic Disqualification

An undergraduate student on academic probation shall be subject to academic disqualification if:

1. as a lower division student (fewer than 60 semester hours of college work completed) he or she falls 15 or more grade points below a 2.0 average on all college units attempted or in all units attempted at this institution; or
2. as a junior (60 to 89½ semester hours of college work completed) he or she falls nine or more grade points below a 2.0 average on all college units attempted or in all units attempted at this institution; or

3. as a senior (90 or more semester hours of college work completed) he or she falls six or more grade points below a 2.0 average on all college units attempted or in all units attempted at this institution.

A graduate student enrolled in a graduate degree program shall be subject to disqualification if while on probation sufficient grade points are not achieved to remove probationary status. Disqualification may be either from further registration in a particular program or from further enrollment in the university, as determined by appropriate campus authority.

A postbaccalaureate student who is on probation shall be subject to disqualification if he or she fails to earn at least a 2.50 grade-point average each term after the completion of 12 units at California State University, Fullerton in postbaccalaureate status. Disqualification may be either from further registration as a postbaccalaureate, credential, or certificate program or from enrollment at California State University, Fullerton, as determined by the vice president for academic affairs or designee.

Student Conduct

The university properly assumes that all students are in attendance to secure a sound education and that they will conduct themselves as mature citizens of the campus community. Compliance with all regulations of the university is therefore expected. If, however, on any occasion a student or an organization is alleged to have compromised accepted university standards, appropriate judiciary procedures shall be initiated through the established university process. Every effort will be made to encourage and support the development of self-discipline and control by students and student organizations. The dean of student services, aided by members of the faculty, is responsible to the president of the university for the behavior of students in their relationships to the university. The president in turn is responsible to the chancellor and the trustees of The California State University and Colleges who themselves are governed by specific laws of the State of California.

Students have the right to appeal certain disciplinary actions taken by appropriate university authorities. Regulations governing original hearings and appeal rights and procedures have been carefully detailed to provide maximum protection to both the individual charged and the university community.

If the issue cannot be resolved informally, students should consult with the coordinator of academic appeals.

Inappropriate conduct by students or by applicants for admission is subject to discipline as provided in Sections 41301 through 41304 of Title 5, *California Administrative Code*. These sections are as follows:

Article 1.1, Title 5, California Administrative Code.

41301. Expulsion, Suspension and Probation of Students. Following procedures consonant with due process established pursuant to Section 41304, any student of a campus may be expelled, suspended, placed on probation or given a lesser sanction for one or more of the following causes which must be campus related:

(a) Cheating or plagiarsim in connection with an academic program at a campus.
(b) Forgery, alteration or misuse of campus documents, records, or identification of knowingly furnishing false information to a campus.
(c) Misrepresentation of oneself or of an organization to be an agent of a campus.
(d) Obstruction or disruption, on or off campus property, of the campus educational process, administrative process, or other campus function.
(e) Physical abuse on or off campus property of the person or property of any member of the campus community or of members of his or her family or the threat of such physical abuse.
(f) Theft, of, or non-accidental damage to, campus property, or property in the possession of, or owned by, a member of the campus community.
(g) Unauthorized entry into, unauthorized use of, or misuse of campus property.
(h) On campus property, the sale or knowing possession of dangerous drugs, restricted dangerous drugs, or narcotics as those terms are used in California statutes, except when lawfully prescribed pursuant to medical or dental care, or when lawfully permitted for the purpose of research, instruction or analysis.
(i) Knowing possession or use of explosives, dangerous chemicals or deadly weapons on campus property or at a campus function without prior authorization of the campus president.
(j) Engaging in lewd, indecent, or obscene behavior on campus property or at a campus function.
(k) Abusive behavior directed toward, or hazing of, a member of the campus community.
(l) Violation of any order of a campus president, notice of which had been given prior to such violation and during the academic term in which the violation occurs, either by publication in the campus newspaper, or by posting on an official bulletin board designated for this purpose, and which order is not inconsistent with any of the other provisions of this Section.
(m) Soliciting or assisting another to do any act which would subject a student to expulsion, suspension or

probation pursuant to this Section.

(n) For purposes of this Article, the following terms are defined:

(1) The term "member of the campus community" is defined as meaning California State University trustees, academic, non-academic and administrative personnel, students, and other persons while such other persons are on campus property or at a campus function.

(2) The term "campus property" includes:

(A) Real or personal property in the possession of, or under the control of, the Board of Trustees of The California State University, and

(B) All campus feeding, retail, or residence facilities whether operated by a campus or by a campus auxiliary organization.

(3) The term "deadly weapons" includes any instrument or weapon of the kind commonly known as a blackjack, sling shot, billy, sandclub, sandbag, metal knuckles, any dirk, dagger, switchblade knife, pistol, revolver, or any other firearm, any knife having a blade longer than five inches, any razor with an unguarded blade, and any metal pipe or bar used or intended to be used as a club.

(4) The term "behavior" includes conduct and expression.

(5) The term "hazing" means any method of initiation into a student organization or any pastime or amusement engaged in with regard to such an organization which causes, or is likely to cause, bodily danger, or physical or emotional harm, to any member of the campus community; but the term "hazing" does not include customary athletic events or other similar contests or competitions.

(o) This Section is not adopted pursuant to Education Code Section 89031.

(p) Notwithstanding any amendment or repeal pursuant to the resolution by which any provision of this Article is amended, all acts and omissions occurring prior to that effective date shall be subject to the provisions of this Article as in effect immediately prior to such effective date.

41302. Disposition of Fees: Campus Emergency; Interim Suspension. The President of the campus may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such student for the semester, quarter, or summer session in which he or she is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which he or she is suspended, no additional tuition or fees shall be required of the student on account of the suspension.

During periods of campus emergency, as determined by the President of the individual campus, the President may, after consultation with the Chancellor, place into immediate effect any emergency regulations, procedures, and other measures deemed necessary or appropriate to meet the emergency, safeguard persons and property, and maintain educational activities.

41303. Conduct by Applicants for Admission. Notwithstanding any provision in this Chapter 1 to the contrary, admission or readmission may be qualified or denied to any person who, while not enrolled as a student, commits acts which, were he enrolled as a student, would be the basis for disciplinary proceedings pursuant to Sections 41301 or 41302. Admission or readmission may be qualified or denied to any person who, while a student, commits acts which are subject to disciplinary action pursuant to Section 41301 or Section 41302. Qualified admission or denial of admission in such cases shall be determined under procedures adopted pursuant to Section 41304.

The President may immediately impose an interim suspension in all cases in which there is reasonable cause to believe that such an immediate suspension is required in order to protect lives or property and to insure the maintenance of order. A student so placed on interim suspension shall be given prompt notice of charges and the opportunity for a hearing within 10 days of the imposition of interim suspension. During the period of interim suspension, the student shall not, without prior written permission of the President or designated representative, enter any campus of the California State University other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

41304. Student Disciplinary Procedures for The California State University. The Chancellor shall prescribe, and may from time to time revise, a code of student disciplinary procedures for The California State University. Subject to other applicable law, this code shall provide for determinations of fact and sanctions to be applied for conduct which is a ground of discipline under Sections 41301 or 41302, and for qualified admission or denial of admission under Section 41303; the authority of the campus president in such matters; conduct related determinations on financial aid eligibility and termination; alternative kinds of proceedings, including proceedings conducted by a hearing officer; time limitations; notice; conduct of hearings, including provisions governing evidence, a record, and review; and such other related matters as may be appropriate. The chancellor shall report to the board his actions taken under this section.

Debts Owed to the University

Should a student or former student fail to pay a debt owed to the university, the university may "withhold permission to register, to use facilities for which a fee is authorized to be charged, to receive services, materials, food or merchandise or any combination of the above from any person owing a debt" until the debt is paid (see Title 5, *California Administrative Code*, Sections 42380 and 42381). For example, the institution may withhold such a service as furnishing copies of a student's transcript. If a student believes that he or she does not owe all or part of an unpaid obligation, the

student should consult the business office. The business office, or another office to which the student may be referred, will review the pertinent information, including information the student may wish to present, and will advise the student of its conclusions with respect to the debt.

RIGHT OF PETITION

Students may petition for review of certain university academic regulations when unusual circumstances exist. It should be noted, however, that academic regulations when they are contained in Title 5, *California Administrative Code,* are not subject for petition.

Petition forms are available in the Office of Admissions and Records and must first be reviewed and signed by appropriate officers before being reviewed by the university petitions committee. This committee will take action on the petition and the student will be notified of the decision. Results of the action will be placed in the student's folder in the Office of Admissions and Records.

The petitions committee members shall consist of the associate dean of each school, or equivalent, a professional staff member appointed by the dean of admissions and records, and the assistant registrar, who will serve as the secretary.

RIGHT OF NONCOMPLIANCE, RISK ACTIVITIES

Certain university activities either within or outside of the classroom may involve varying degrees of risk to the participants. It is university policy that the instructor directing such activities divulge fully to all potential participants the specific nature of such risks and obtain from them their expressed or implied consent prior to undertaking activities.

The student who at any time comes to believe that the risks, whether physical or psychological, are excessive has the responsibility to withdraw from participation at the time and to inquire of the instructor if there are alternative means of fulfilling the requirements without penalty. If there is none, the student may petition for withdrawal from the course without penalty or appeal for an appropriate modification of the activity. The appeal may be made either to the chair of the department concerned, or to the chair of the Committee on Activities Involving Human Subjects, or both.

RIGHT OF ACADEMIC APPEAL

The right of due process, appeal and peer judgment is established by the Student Bill of Rights and Responsibilities for students who feel they have been treated capriciously or with prejudice by faculty or administrators. Students should make every effort to resolve the issue informally by consulting the individual concerned, and if necessary the department chair and dean of the school.

Students who still believe the problem has not been resolved should consult with the coordinator of academic appeals. Upon the student's request, the coordinator will convene the Academic Appeals Board to hear the student's complaint. Students must initiate the appeals process within one month after they could reasonably be expected to be aware of the action in question.

Copies of the governing documents are available in the Academic Appeals Office.

PRIVACY RIGHTS OF STUDENTS

The federal Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g) and regulations adopted thereunder (45 C.F.R. 99), set out requirements designed to protect the privacy of parents and students concerning education records maintained by the institution. Specifically, the statute and regulations govern access to records maintained by the university, and the release of such records. In brief, the law provides that the university must provide students access to official records directly related to them and an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading or otherwise inappropriate; the right to a hearing under the law does not include any right to challenge the appropriateness of a grade as determined by the professor. The law generally requires that written consent of the student be received before releasing personally identifiable data about the student from records to other than a specified list of exceptions. The institution has adopted a set of policies and procedures concerning implementation of the Act and the regulations on the campus. Copies of these policies and procedures may be obtained from the dean of student services. Among the types of information included in the campus statement of policies and procedures is: (1) the types of student records and the information contained therein; (2) the official responsible for the maintenance of each type of record; (3) the location of access lists which indicate persons requesting or receiving information from the record; (4) policies for

reviewing and expunging records; (5) the access rights of students; (6) the procedures for challenging the content of student records; (7) the cost which will be charged for reproducing copies of records, and (8) the right of the student to file a complaint with the Department of Education. An office and review board have been established by the Department to investigate and adjudicate violations and complaints. The office designated for this purpose is: The Family Educational Rights and Privacy Act Office (FERPA), U.S. Department of Health, Education and Welfare, 330 C Street, Room 4511, Washington, D.C. 20202.

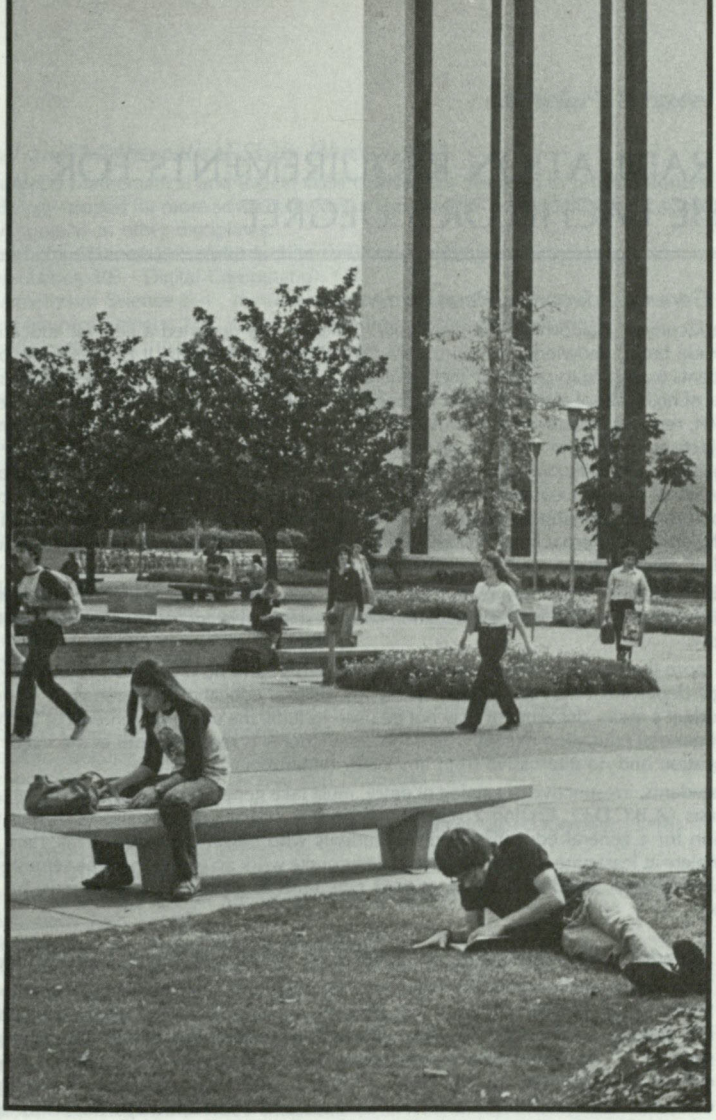
The campus is authorized under the act to release directory information concerning students. Directory information may include the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. Directory information is subject to release by the university at any time unless it has received prior written objection from the student specifying information that the student requests not be released. Written objections should be sent to the dean of student services. Further details are published each semester in the class schedule.

The campus is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons are those who have responsibilities in connection with the university's academic, administrative or service functions and who have reason for using student records connected with university or other related academic responsibilities.

USE OF SOCIAL SECURITY NUMBER

Applicants are requested, but not required, to include their social security number in designated places on applications for admission pursuant to the authority contained in Title 5, *California Administrative Code*, Section 41201. The social security number is used on many campuses as a means of identifying records pertaining to the student as well as identifying the student for purposes of financial aid eligibility and disbursement and the repayment of financial aid and other debts payable to the institution. At Fullerton, student records are identified by a university-assigned student file number, not the social security number, though the latter is used in financial aids administration and in student payroll records.

DEGREE REQUIREMENTS



DEGREE REQUIREMENTS

GRADUATION REQUIREMENTS FOR THE BACHELOR'S DEGREE

1. General Education Requirements

The faculty of California State University, Fullerton has designed a general education program to provide broad knowledge within the traditional areas of learning. It is strongly recommended that students expecting to complete their general education requirements at Fullerton include at least one year of high school algebra as part of their preparation. The *California Administrative Code*, Section 40404, requires course work to provide a further understanding of American government. The basic subjects are university level non-remedial courses designed to impart skills necessary to facilitate the acquisition and utilization of knowledge in the natural sciences, social sciences, arts and humanities. The other required courses in arts, humanities, natural science and social sciences, provide an opportunity to develop an appreciation for the development of Western civilization, an awareness of the content, approaches, and methods of the various disciplines, an understanding of one's culture and of other cultures, and an appreciation of the arts.

To be eligible for a baccalaureate from the university, the student shall have completed a minimum of 48 semester units of general education courses selected in accordance with the pattern designated below.

No more than nine units from Sections III through V, and no more than 12 units overall, from any single department may be used to satisfy the general education requirements. Courses offered by a student's major department may not be used to fulfill the unit requirements of Sections III through V of general education except where the same course is required both in the major and in general education and no alternative from any other department is available.

All students, irrespective of catalog of entry, must take general education courses on a grade Option 1 basis (A,B,C,D,F). Option 2 (Credit/No Credit) courses may be used if that is the only grade option for a general education course. Students who began their studies fall 1981 and later must complete at least nine units of upper-division course work no earlier than the semester in which they achieved junior standing. Further, at least nine units of general education must be earned in residence.

I. Statutory Requirements in American Institutions and Values: six units

The requirement is that each student "demonstrate competence in the Constitution of the United States, and in American history including the study of American institutions and ideals, and of the principles of state and local government established under the Constitution of this state. . . ." The following alternatives meet this requirement: (1) pass Political Science 100 and either (a) History 180, or (b) History 170A and 170B, or (c) American Studies 201, or (2) pass comprehensive examinations offered by each of the relevant departments for their respective courses. Transfers from outside the State of California who have already completed a basic course in American government may substitute Political Science 300 for Political Science 100.

These units cannot be used to satisfy any other general education requirement.

II. Basic Subjects: nine units minimum

Basic subjects are university level non-remedial courses designed to impart skills necessary to facilitate the acquisition and use of knowledge in the natural sciences, social sciences, arts and humanities. Each student shall demonstrate competence by completing (with a grade of C or better) no fewer than three units of work from each category below:

A. Writing Skills in English (three units)

Basic subjects writing skills courses are designed to impart skills in organizing, analyzing, and expressing thoughts and concepts in standard written English:

Communications 103 Applied Writing (3)
English 101 Beginning College Writing (3)

B. Logical and Mathematical Skills (three units)

Basic subjects mathematical and logical skills courses are designed to provide content and methodology needed for more advanced work in logic and/or mathematics or for application of these subjects in other disciplines.

Computer Science 112 Introduction to Computer Programming (3)
Engineering 205 Digital Computation (3)
Management Science 264 Introduction to Computer Programming (2)
Management Science 289 Computer Methods in Social Science (3)
Mathematics 100 Precalculus Mathematics (4)
Mathematics 110 Mathematics for Liberal Arts Students (3)
Mathematics 120 Introduction to Probability and Statistics (3)
Mathematics 130 A Short Course in Calculus (4)
Mathematics 135 Business Calculus (3)
Mathematics 150A Analytic Geometry and Calculus (4)
Mathematics 368 First Course in Symbolic Logic (3)
Philosophy 210 Logic (3)
Philosophy 368 First Course in Symbolic Logic (3)

C. Language Skills (three units)

Basic subjects language skills courses are designed to impart skills in the use, interpretation, and analysis of spoken or written language.

English 201 Intermediate College Writing (3)
Foreign Languages 101* Fundamental Foreign Languages (3–5)
Foreign Languages 102* Fundamental Foreign Languages (3–5)
Foreign Languages 203* Intermediate Foreign Languages (3)
Foreign Languages 204* Intermediate Foreign Languages (3)
French 230 Intermediate Diction and Phonetics (2)
French 240 Intermediate Conversation and Composition (2)
German 100 A–J Personalized Instructions in Individualized German (3–10)
German 213 Intermediate Reading (2)
German 214 Intermediate Reading (2)
Library 300 Elements of Bibliographic Investigation (3)
Linguistics 301 Sanskrit (3)
Philosophy 200 Argument and Reasoning (3)
Reading 201 Academic Reading: Analyses and Strategies (3)
Reading 202 Vocabulary Comprehension: Cognitive Processes (3)
Religious Studies 301 Sanskrit (3)
Spanish 103 Intensive Review of Fundamental Spanish (5)
Spanish 213 Intermediate Conversation (2)
Spanish 214 Intermediate Composition (2)
Speech Communication 100 Introduction to Human Communication (3)
Speech Communication 102 Public Speaking (3)
Theater 110 Introduction to Oral Interpretation (3)

III. Foundations: 24 units minimum

A. Western Civilization (nine units)

The required courses in Western civilization give a holistic view of the development of Western society—its values, traditions and institutions. The complementary courses included in the arts or humanities are chronologically organized and cover a period of centuries or millennia. They trace the development of a single major aspect of Western civilization in the arts or humanities.

1. The History of Western Civilization (six units)
History 110A,B Western Civilization (6)

2. Arts and Humanities (three units)
Anthropology 110 Non-Western Cultures and the Western Tradition (3)
Art 201A,B Art and Civilization (3,3)

---

* The fundamental or intermediate courses in any language offered by the Foreign Languages and Literatures Department will fulfill this requirement.

Comparative Literature 110 Literature of the Western World from Ancient Through Medieval Times (3)
Comparative Literature 111 Literature of the Western World from Renaissance through the 19th Century (3)
English 110 Literature of the Western World from Ancient through Medieval Times (3)
English 111 Literature of the Western World from Renaissance through the 19th Century (3)
Music 100 Introduction to Music (3)
Philosophy 115A The Western Tradition: Philosophy (3)
Philosophy 115B The Western Tradition: Philosophy (3)
Religious Studies 345A History and Development of Christian Thought: The Beginning to 1274 (3)
Religious Studies 345B History and Development of Christian Thought: 1275 to Present (3)
Religious Studies 346A History and Development of Jewish Thought: The Beginning to Moses Maimonides (3)
Religious Studies 346B History and Development Jewish Thought: From Ben Gerson to the Present (3)
Theatre 175 History of Western Theatre (3)

B. Fundamentals of Natural Science (six or seven units)

The courses included provide the content and methodology that form the bases for studies in all other areas of natural science. A solid foundation in this area will allow students to develop their interests in related areas or to go into depth in one particular field.

Students must complete a total of nine units in natural science. A laboratory course must be included in the nine units. Students completing six or seven units in IIIB must take an additional two or three units in IV.

1. Physical Science (three or four units)
Chemistry 100 Introductory Chemistry (3)
Chemistry 100L † Introductory Chemistry Laboratory (1)
Chemistry 115† Introductory Chemistry (4)
Chemistry 120A † General Chemistry (5)
Earth Science 101 Physical Geology (3)
Earth Science 101L † Physical Geology Laboratory (1)
Physics 123 Perspectives of Man's Physical Universe (3)
Physics 123L † Perspectives of Man's Physical Universe Laboratory (1)
Physics 211A * Elementary Physics (3)
Physics 212A † * Elementary Physics Laboratory (1)
Physics 225A Fundamental Physics: Mechanics (3)
Physics 226A † Fundamental Physics: Mechanics Laboratory (1)
Science 112 # Our Physical Earth (4)
Science 112L † Our Physical Earth Laboratory (1)

2. Biological Science (three or four units)
Biological Science 101 Elements of Biology (3)
Biological Science 101L † Elements of Biology Laboratory (1)
Biological Science 141 Principles of Botany (4)
Biological Science 141L † Principles of Botany Laboratory (2)
Biological Science 161 Principles of Zoology (2)
Biological Science 161L † Principles of Zoology Laboratory (2)
Science 113 The Chemical Basis of Life: The Interface of Biology and Chemistry (4)
Science 113L † The Chemical Basis of Life: The Interface of Biology and Chemistry Laboratory (1)

---

†Laboratory
* Physics 211A and 212A must be taken concurrently.
To fulfill this requirement, students must take both Science 112 and 113 in addition to one of the laboratory sections (112L or 113L)

C. Fundamentals of Social Science (three units)

Included are the introductory general courses in the fundamental social sciences whose content and methodology form the bases for more specialized and interdisciplinary work.

American Studies 101 Introduction to Culture Studies: American Studies as Interdisciplinary Social Science (3)
Anthropology 102 Introduction to Cultural Anthropology (3)
Economics 100 The Economic Environment (3)
Economics 210 Principles of Economics (5)
Geography 100 World Habitats (3)
Political Science 200 Introduction to the Study of Politics (3)
Psychology 101 Introductory Psychology (3)
Sociology 101 Introduction to Sociology (3)

D. Introduction to the Arts and Humanities (six units)

Included are introductory general courses in the arts and humanities whose content and methodology form the bases for more specialized and interdisciplinary work. They provide comprehensive surveys of the disciplines, with emphasis on both content and method.

1. Arts (three units)

Art 101 Introduction to Art (3)
Music 101 Music Theory for Non-Music Majors (3)
Music 203 Ethnic Music (3)
Theatre 100 Introduction to the Theatre (3)
Theatre 101 Introduction to Dance (3)

2. Humanities (three units)

English 200 Introduction to Literature (3)
English 311 Masters of British Literature to 1760 (3)
English 312 Masters of British Literature from 1760 (3)
English 321 American Literature to Whitman (3)
English 322 American Literature from Twain to the Moderns (3)
English 354 Linguistics and Literature (3)
French 315 Origins of Modern France (3)
French 375 Introduction to Literature (3)
German 315 Introduction to German Civilization (3)
German 375 Introduction to Literary Forms (3)
Linguistics 106 Language and Linguistics (3)
Linguistics 354 Linguistics and Literature (3)
Philosophy 100 Introduction to Philosophy (3)
Philosophy 110 Comparative Study of the World's Great Religions (3)
Philosophy 290 History of Philosophy: Greek Philosophy (3)
Philosophy 310 Ethnics (3)
Portuguese 315 Introduction to Luso-Brazilian Culture and Civilization (3)
Religious Studies 110 Comparative Studies of the World's Great Religions (3)
Spanish 315 Introduction to Spanish Civilization (3)
Spanish 316 Introduction to Spanish-American Civilization (3)
Spanish 375 Introduction to Literary Forms (3)

IV. Alternatives Within Natural Science: two or four units minimum

These courses have a substantial scientific content. In addition, they are either introductory to the major subdisciplines in the natural sciences or they relate science to significant social problems.

Students who complete only seven units in natural science under Section IIIB must take two additional units from Section IV, Alternatives to Natural Science. If a laboratory course was not taken in Section IIIB, one must be taken from Section IV.

Courses listed in IIIB or the following:
Anthropology 101 Introduction to Physical Anthropology (3)
Biological Science 102 Issues in Environmental Biology (3)
Biological Science 306 Biology of Aging (3)
Biological Science 313 Human Genetics (3)

Biological Science 314 Human Issues in Genetics (1)
Biological Science 319 Marine Biology (3)
Biological Science 319L † Marine Biology Laboratory (1)
Biological Science 323 Biology of Sexually Transmitted Diseases (STD) (1)
Biological Science 353 Principles of Horticulture (2)
Biological Science 360 Biology of Human Sexuality (1)
Chemistry 107 Air and Water Pollution (3)
Chemistry 107D † Experiments in Air and Water Pollution (1)
Chemistry 111 Nutrition and Drugs
Earth Science 120 Introduction to Earth Science (3)
Earth Science 121 † Earth Science Laboratory (1)
Earth Science 140 Earth's Atmosphere (3)
Earth Science 201 Earth History (4)
Earth Science 310 Directed Readings in Earth Science (1–2)
Geography 110 Principles of Physical Geography (3)
Geography 120 Environment and Change (3)
History 231 Ascent of Man (3)
Philosophy 384 Philosophy of the Physical Sciences (3)
Physical Science 100 Man and His Physical Environment (4)
Physics 100 Man and His Physical Environment (4)
Physics 105 Fads and Fallacies in the Name of Science (1)
Physics 107 Nuclear Energy and Its Impact on Society (1)
Physics 200 Introduction to Astronomy (4)
Physics 384 Philosophy of Physical Sciences (3)

V. Explorations: six units minimum

Six units must be chosen from among two of the following categories:

A. Arts, Humanities, Social Sciences

Courses may be chosen from those listed in IIIA, C or D.

B. African, Asian, Latin American or Modern Middle Eastern Civilization

The courses included are continental surveys which provide an introduction to Asia, Africa, Latin America or the modern Middle East.

Afro-Ethnic Studies 346 The African Experience (3)
Afro-Ethnic Studies 352 African Literature (3)
Anthropology 104 Traditional Cultures of the World (3)
Anthropology 325 Peoples of South America (3)
Anthropology 326 Archaeology of South America (3)
Anthropology 328 Peoples of Africa (3)
Anthropology 340 People of Asia (3)
Anthropology 345 Peoples of the Middle East and North Africa (3)
Anthropology 347 Peoples of the Pacific (3)
Chicano Studies 336 Main Trends in Spanish-American Literature (3)
Comparative Literature 352 African Literature (3)
Economics 332 Economic Problems of Asia (3)
Economics 333 Economic Development: Analysis and Case Studies (3)
English 352 African Literature (3)
Geography 333 Latin America (3)
Geography 344 Africa (3)
Geography 346 Australia and the Pacific (3)
History 350 History of Latin American Civilization (3)
History 360 Modern Asia: Nationalism and Revolutionary Change (3)
Philosophy 350 Oriental Philosophy (3)
Religious Studies 250 The Religion of Islam (3)
Religious Studies 270 Introduction to the Oriental Religions (3)

† Laboratory

C. *Cultural Pluralism in the United States*

Included are introductory survey courses emphasizing the interaction of cultures in the United States.

Afro-Ethnic Studies 101 Introduction to Ethnic Studies (3)
Afro-Ethnic Studies 108 Linguistics and Minority Dialects (3)
Afro-Ethnic Studies 220 The Indian in American History (3)
Afro-Ethnic Studies 240A Afro-American History to 1865 (3)
Afro-Ethnic Studies 240B Afro-American History from 1865 to Present (3)
Afro-Ethnic Studies 301 Afro-American Culture (3)
Afro-Ethnic Studies 311 Intracultural Socialization Patterns (3)
Afro-Ethnic Studies 422 Psychology of the Afro-American (3)
American Studies 301 The American Character (3)
American Studies 411 The White Ethnic in America (3)
Anthropology 321 The American Indian (3)
Chicano Studies 106 Introduction to Chicano Studies (3)
Chicano Studies 220 Mexican Heritage (3)
History 488 Black American Since 1890 (3)
Human Services 311 Intracultural Socialization Patterns (3)
Linguistics 108 Linguistics and Minority Dialects (3)
Sociology 431 Minority Group Relations (3)
Sociology 436 Social Stratification (3)
Speech Communication 320 Intercultural Communication (3)

D. *Interdisciplinary Studies*

Included are those courses in which the contributions of two or more disciplines are clearly noted and in which the integration of these disciplines is a conscious and explicit part of the presentation. The purpose of this integration is to analyze a contemporary problem, issue or topic.

Afro-Ethnic Studies 107 Introduction to Afro-American Studies (3)
American Studies 300 Introduction to American Popular Culture (3)
American Studies 345 The American Dream (3)
American Studies 386A American Social History, 1750-1860 (3)
American Studies 386B American Social History, 1865-1930 (3)
Communications 233 Mass Communication in Modern Society (3)
Geography 160 Culture and Environment (3)
Geography 170 Introduction to the City (3)
History 370 American Sex Reformers (3)
History 386A American Social History, 1750-1860 (3)
History 386B American Social History, 1865-1930 (3)
Music 350 Music in Our Society (3)
Philosophy 341 Assumptions of Psychotherapy (3)
Physical Education 381 Human Movement in Cultural Perspective (3)

E. *Participatory Experience*

Courses involving an individual participatory experience have been selected from one of the arts—art, dance, music, theatre—for the purpose of enhancing esthetic appreciation through creative engagement. They include theory as well as an opportunity to manipulate or perform.

Afro-Ethnic Studies 314 Pan-African Dance and Movement (3)
Art 100 Exploratory Course in Art (3)
Art 103 Two-dimensional Design (3)
Art 104 Three-dimensional Design (3)
Art 106A Beginning Ceramics (3)
Art 107A,B Beginning Drawing and Painting (3,3)
Music 183 Voice Class for Non-majors (1)
Music 184A Piano Class for Non-majors (1)
Music 361a-h Major Performance Ensemble (1)
Music 362A Jazz Band (1)
Music 362C Chamber Singers (1)

Music 362D Percussion Ensemble (1)
Music 362E Brass Ensemble (1)
Music 362G String Ensemble (1)
Music 362H Chamber Orchestra (1)
Music 362L Jazz Laboratory Band (1)
Music 362P Choral Laboratory (1)
Music 362X Beginning Opera Techniques (1)
Music 362Z Advanced Opera Techniques (1)
Music 363b-x Chamber Music Ensembles (1)
Music 365I Instrumental Workshop (1)
Music 365K Keyboard Workshop (1)
Music 365V Vocal Workshop (1)
Music 400 Concert Music (1)
Theatre 112 Beginning Classical Ballet (2)
Theatre 122A Beginning Modern Dance (2)
Theatre 126 Improvisation (2)
Theatre 163 Beginning Acting (3)
Theatre 206A Mime and Pantomime (3)
Theatre 241 Voice Production for the Performer (2)
Theatre 251 Body Movement for the Actor (3)
Theatre 276A Beginning Stagecraft (3)
Theatre 277 Costume Fundamentals (3)
Theatre 285 Theatrical Makeup (3)
Theatre 310 Oral Interpretation of Shakespeare (3)
Theatre 411 Oral Interpretation of Children's Literature (3)
Theatre 436A,B Musical Theatre Workshop (3,3)

Under provisions of Executive Orders 338 and 342, accredited colleges and universities may certify the completion of part of the 48 units required in general education. Within the policy of the Board of Trustees, Cal State Fullerton will accept such certification of general education up to a maximum of 39 semester units, but may accept no more in general education than the number of units required in each area (A through E below) and no more than 30 units in areas B through D combined. Fullerton will require the completion of the remainder of the units in those areas in which the student has not been certified. Students will not be expected to complete more units than the difference between the amount accepted by certification and the 48 semester units required.

Certified Areas		Complete Remainder from Fullerton Sections
A. Communication	9	IIA; IIC
B. Natural Sciences/Mathematics	12	IIB; IIIB, IV
C. Arts and Humanities	12	IIIA(2); IIID(1), IIID(2)
D. Social Sciences	12	I, IIIA(1), IIIC, VB, VC, VD
E. Self-development	3	VB, C, D, E

2. Upper-Division Baccalaureate Writing Requirement

The university requires that every person completing bachelor's degrees under 1980–81 and later catalog requirements demonstrate writing ability acceptable for graduation. The upper-division writing requirement has two parts; students must satisfy each:

An upper-division course. Each major requires that students pass a specially designated upper-division course of at least three semester units.

The University Examination in Writing Proficiency (EWP). The university faculty requires that students pass the EWP, which has been especially designed to measure writing ability.

The university requires that students complete both parts of the requirement before achieving senior standing (90 units). Students who have not passed the requirement before becoming seniors may not enroll for courses other than those to meet the requirement. Senior transfer students must complete the requirement during their first semester at Fullerton.

Students may apply for a waiver from the requirement if they (1) have published expository prose, (2) are candidates for second bachelor's degrees and demonstrate writing ability equivalent to that required by Fullerton, or (3) as transfer students present evidence of equivalent proficiency in writing at the upper division.

The Course—The University Board on Writing Proficiency must certify the course or courses that each major department designates to fulfill the requirement. A current list of certified courses appears in the class schedule each semester. To be certified by the board, a course shall include instruction in composition, include writing assignments relevant to the major discipline of varying length and functions, include timely evaluations of writing, and have students' final course grades include assessment of writing competence.

The Examination—The University Examination in Writing Proficiency (EWP) is in two parts, approximately evenly divided between objective and essay sections. Information about registration for the EWP and testing dates is published in the class schedule each semester.

3. Electives

After fulfilling the requirements in general education, and a specific major (and possibly a minor), each student is free to choose the rest of the courses needed to complete the semester units required for graduation. Different majors vary considerably in both the number of units they require in their own and related fields. They also vary considerably in the amount of latitude or choice they permit in selecting courses to satisfy the major requirement. The general education requirement encourages freedom of choice within the natural sciences, social sciences, arts and humanities, and basic subjects. Students at the university use their electives to broaden their general education, deepen some aspect of their specialties, pursue work in related fields, and satisfy curiosities and enthusiasms for particular subjects or areas of interest.

Advisement on general education and electives is provided by the Academic Advisement Center.

4. Units

(a) Total units
A minimum of 124 semester units is required for graduation with a bachelor of arts degree. Bachelor of science degree requires 124 to 132 semester units. The bachelor of music degree requires 132 semester units.

(b) Upper-division units
Completion of a minimum of 40 units of upper–division credit is required.

(c) Completion of a minimum of 30 semester units in residence is required. At least 24 of these units must be earned in upper-division courses and 12 must be in the major. Extension credit or credit by examination may not be used to fulfill the minimum residence requirement, except that the chancellor may designate specified extension courses that may be offered for residence credit and may establish policies and procedures by which residence credit may be earned by evaluation. When individual circumstances warrant an exception, the university petitions committee may authorize the substitution of credit earned elsewhere for residence credit.

5. Scholarship

(a) A grade-point average of 2.0 or better is required on all units attempted, including those accepted by transfer from another institution.

(b) A grade-point average of 2.0 or better is required on all units in the major.

(c) A grade-point average of 2.0 or better is required on all units attempted at Fullerton.

6. Major

Completion of all requirements for a major as specified by appropriate university authority is required. In bachelor of arts programs at least 24 units, including 12 at the upper-division level, must be applied exclusively to the major requirements and may not be used to meet the requirements of general education. In bachelor of science programs, a minimum of 36 units, including 18 at the upper-division level, must be applied exclusively to the major. The bachelor of music degree requires a maximum of 70 semester units.

7. Multiple Majors and Second Baccalaureate Degrees

Within the units required for the baccalaureate it is possible for a student to complete the requirements for more than one major within a degree program when the additional major is within the degree of the first major. At least 24 units, including 12 at the upper-division level, in each bachelor of arts major, or 36 units, including 18 at the upper-division level, in each bachelor of science major,

must be applied exclusively to the respective major and may not be used to meet requirements in other majors or in general education. The student shall declare the additional major with the appropriate department not later than the beginning of the student's final year of study. The completion of additional majors will be noted at the time of graduation by appropriate entries on the academic record and in the commencement program.

It is also possible for a student to complete a major in one degree program and an additional major from a different program, provided the minimum units described in the preceding paragraph are applied exclusively to the respective major and are not used in other majors or in general education. In this instance, the student has the option of which degree he or she will receive with the major appropriate to that degree. The completion of the additional major will be noted on the student's academic record. The university does not award two degrees to the individual who completes multiple majors in a four-year degree program.

Second baccalaureate

(a) First degree completed elsewhere, second at Fullerton
Students seeking a bachelor's degree from Fullerton after having received a baccalaureate from another institution may qualify for graduation with the approval and recommendation of the faculty upon completion of the following:
(1) general education requirements
(2) all requirements in the major field of study
(3) residence and scholarship requirements

(b) Two baccalaureates from Fullerton
With the approval and recommendation of the faculty, a student may qualify for a second baccalaureate under the following circumstances:
(1) The second field of study is offered in a different degree (e.g., bachelor of arts to bachelor of science)
(2) At least 30 units, including 24 upper-division units and 12 in the major, are earned in residence after the conferral of the first degree
(3) All requirements of the major are fulfilled

Units included in second baccalaureate programs may not apply to graduate degrees or credential programs.

8. Minor

A minor is not required for the baccalaureate, however, students may elect to complete one or more minors from those available and have that noted on their records. A minor consists of an academic program specified by the academic departments in the catalog. No courses required in the major may be counted toward the minor and also toward requirements for the major. General education courses, however, may be used to meet minor requirements.

9. Graduation Requirement Check

A candidate for graduation must file an application for a graduation requirements check during registration week for the semester prior to the semester in which the student expects to graduate. The graduation and diploma fee is required when the application is filed. Application forms are available at the admissions and records information desk and in the registration center.

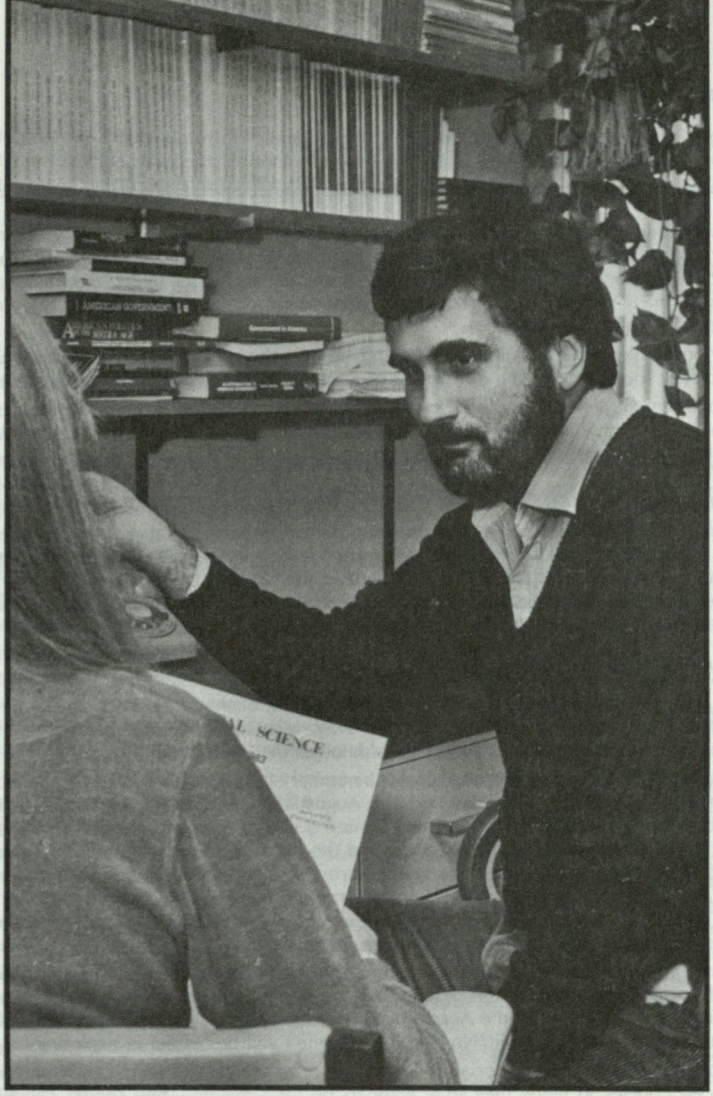
Candidates for the baccalaureate should refer to the semester class schedule for application filing dates. A senior should have completed at least 100 units (including the current work in progress) and a substantial portion of the major requirements before requesting a graduation check. If the candidate does not complete the requirements in the semester indicated, a change of graduation date must be filed in the Office of Admissions and Records.

10. Approval and Recommendation by the Faculty of the University

Under provisions of the Faculty Council, the Office of Admissions and Records publishes a list of degree candidates twice a year: in the fall and in the spring (for both spring and summer graduates). After review and approval by the faculty, and upon verification of the completion of requirements, diplomas are issued with the last day of the respective term as the official date of graduation.

Annual commencement exercises are held at the end of the spring semester for those who completed degree requirements mid-year and for those completing degree requirements in the spring semester or summer session. The president of the university, with the authority of the Board of Trustees, confers all degrees, subject to the completion of remaining requirements.

Note: Students completing bachelor degree requirements who wish to continue their studies at the university for postbaccalaureate or graduate degree objectives must apply for admission declaring their new objective.



ACADEMIC ADVISEMENT

ACADEMIC ADVISEMENT

The Academic Advisement Center provides guidance information in the choice of an undergraduate major and selection of elective and general education courses. It is the administrative center for undeclared undergraduate majors. All problems encountered by the undeclared major and requests, which normally require the assistance of a department chair, are handled by the director of the Academic Advisement Center.

For choosing general education courses and help in choosing an undergraduate major, students should seek the advice of the director or of an adviser in the Academic Advisement Center.

No appointment is necessary to engage the assistance of an adviser about various aspects of the academic life at the university. For more specific information about the office, the student should consult the class schedule.

Undeclared Majors

Lower division students who are uncertain about their primary educational or vocational goals may enroll as undeclared majors. However, they must select a school which reflects their general interests and consult the office of the school dean for academic advisement. During their freshman and sophomore years, such students should explore their interests and potential by enrolling in a set of courses recommended by a school adviser.

Choosing an Undergraduate Major

Every student should choose a major by the beginning of the junior year so that he or she may complete major requirements in an orderly way. Most major requirements allow students the freedom to take a number of courses in fields other than in the majors.

To help students, the university has available a number of useful resources: the academic advisement information sessions conducted in May, July, August and December; the information about majors available from the Academic Advisement Center; a variety of counseling and testing services provided by the Career Development Center; and the department and school offices for information and advice on particular fields, departmental brochures and manuals describing their programs of study and later work opportunities. There are student organizations with disciplinary and professional interests and the Career Development Center has information on vocations and work opportunities which may help in the selection of a major.

The task of selecting a major (and often a minor or other complementary specialization) becomes one of crystallizing ideas on the basis of experiences in specific courses, discussions with other students, faculty, the staff of the Academic Advisement Center, etc. The option of taking a limited number of courses on a Credit/No Credit basis often will be helpful in exploring new interests.

Students must plan freshman or sophomore programs which will permit their entering or taking advanced courses in fields they may want to be their majors. They should check such major requirements as mathematics, chemistry and foreign language which must be taken before the junior year or perhaps even begun during the freshman year. Students anticipating graduate or professional study should exercise special care in planning undergraduate programs, and they should seek faculty counseling in the fields concerned. Advance examination of the possibilities of graduate or professional study will be helpful to students who have clear educational and vocational objectives.

Those whose goals and objectives have not yet crystallized will have opportunities to take courses in various fields and make up their minds during their lower division work. They should, however, take full advantage of the opportunities that exist on and outside the campus to learn more about available fields of study and occupational fields.

Planning a Major Program

When students have selected a major field, they should study all the requirements which are specified in this catalog under their chosen degree program. Then they should make a tentative semester by semester plan for completing the requirements, with regard for prerequisites. They should discuss this plan with their major advisers.

In addition to courses in the major department, related courses in other fields and supporting courses in basic skills may be required. These should be included in the tentative semester by semester plan.

Some departments require placement tests prior to admission to classes. The time and place for such tests are given in the class schedule. Students should purchase a copy of the class schedule at the Titan Bookstore well before registration for classes begins.

Choosing General Education Courses and Electives

In keeping with the liberal arts tradition, the university requires its graduates to have sampled a variety of disciplines as part of their general education. The broad categories of general education courses are presented in the catalog section on "Graduation Requirements for the Bachelor's Degree."

All students are strongly encouraged to consult with faculty members or the Academic Advisement Center about choice of general education and elective courses.

Change of Major, Degree or Credential Objective

To change major, degree, or credential objective, obtain the required form in the Office of Admissions and Records or the Academic Advisement Center. Such a change is not official until the form has been signed and filed in the Registrar's Office.

DEPARTMENTAL ACADEMIC ADVISEMENT

Each department follows the advisement system which it finds the most appropriate for its majors.

It is the responsibility of the student to obtain the assistance of a faculty adviser.

The adviser is a resource person who can provide information and suggestions and who can assist the student to find the most desirable ways to meet the requirements for graduation and for the major or credential. The final choice of courses and the responsibility for the program lies with the student. Undergraduate students who have not yet decided upon a major (undeclared majors) or who are not seeking a degree will be advised in the Academic Advisement Center.

Academic program advisers are able to offer better advice if students provide lists of courses they have taken and their own copies of transcripts from colleges previously attended (if students are new to Cal State Fullerton).

Undergraduate advisement coordinators are appointed by each department (for the School of Business Administration and Economics see below) in order to facilitate communication between students and faculty. They coordinate advisement in each department and act as resource persons for the students and the faculty of the department in all matters of advisement. Their names, room, telephone numbers and office hours are available each semester from the Academic Advisement Center on an updated list.

The School of Business Administration and Economics provides advisement in the advisement center of the school.

Graduate students will be assigned a major adviser in their fields of specialization, except in education where all will have a professional adviser from the School of Human Development and Community Service. Those students seeking a credential for teaching in secondary schools will be assigned both a professional and a major adviser.

PREPROFESSIONAL PROGRAMS

The academic programs of the university provide appropriate preparation for graduate work in a variety of fields. Students who have made tentative decisions about institutions in which they may wish to pursue graduate work should consult the catalogs of those graduate schools as they plan their undergraduate programs. Students planning to undertake graduate work should supplement their undergraduate programs by anticipating requirements at major graduate schools.

The university offers a number of professional programs through the master's degree. These include programs in the fine arts, business administration, communications, education, engineering, health education and physical education and recreation, public administration, and speech pathology-audiology. Students interested in preparing for professional careers in these areas, either here or in other educational institutions, are encouraged to seek assistance and guidance from our faculty members in these fields.

Prelegal Preparation

It is recommended that prospective law students prepare themselves in such fields as English, American history, economics, political science (particularly the history and development of English and American political institutions) and such undergraduate courses as judicial process, administrative law, constitutional law and international law, philosophy (particularly ethics and logic), business administration, anthropology, psychology and sociology.

A distribution of course sequences among the social sciences, the natural sciences and the humanities is desirable. Students with interest in becoming lawyers should contact the Prelaw Society. Some faculty members in the School of Business Administration and Economics and Departments of American Studies, History and Politicial Science, also can provide advice and assistance.

Pretheological

Students who might be interested in pursuing careers in counseling, social work, the teaching of religion, and the ministry and associated fields should take some courses in religion, psychology, anthropology, sociology, philosophy, education, communications, history, English, speech communication and a foreign language. Students desiring assistance and counseling regarding advanced work or professional careers may seek help from the faculty in the Department of Religious Studies.

Social Welfare

Students who plan to seek employment in social work or social welfare should prepare themselves in the fields of human services, psychology (particularly child and adolescent psychology), sociology, anthropology, political science, economics and research methods in social science.

Students who intend to enter a professional school following undergraduate training should learn about the specific prerequisites for admission to the graduate school of their choice. Ordinarily a major in one of the social sciences, and some additional work in at least several other social sciences, is recommended. Students with interests in pursuing careers in the fields of social welfare should contact the Department of Sociology for advice and assistance.

HEALTH PROFESSIONS

All health professions programs are seeking the best qualified applicants with a good command of communication skills, rigorous basic science preparation and as broad a general education base as possible.

The Health Professions Committee assists students to prepare the best academic programs consistent with their former educational experience, interests and professional objectives.

Student Responsibility

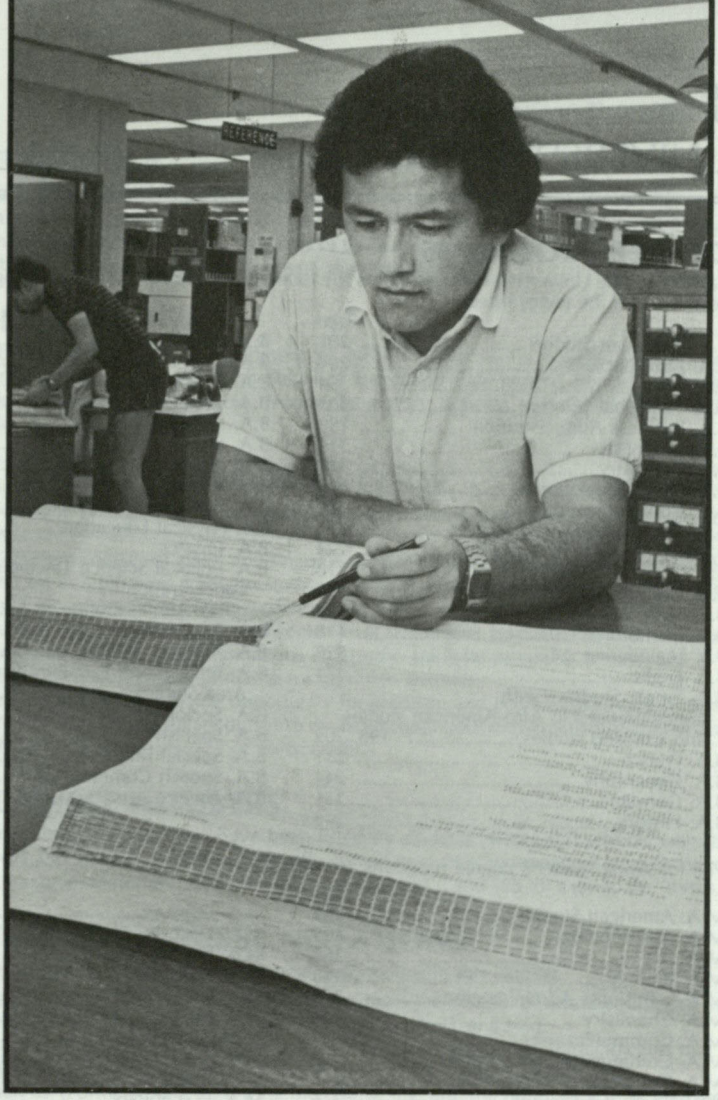
All new students, both first-time freshmen and transfer students, interested in preparing to enter one of the following health professions, or related health professions, should register with the secretary of the committee, in the Health Professions Office. These health professions are medicine, osteopathic medicine, podiatric medicine, veterinary medicine, chiropractic, clinical pharmacy, clinical pharmacology, dentistry, optometry.

The related health professions include anatomist, dental hygienist, histologist, medical technologist, nutritionist, occupational therapist, orthotist-prosthetist, pharmacologist, physical therapist, pharmacist, physiologist, public health.

Health Professions Committee.

The committee assists the student to (a) gain some "preceptorship" experience with a practicing professional in the area appropriate to the field of interest; (b) select a list of professional schools to which there is a likelihood of admission; (c) prepare professional school applications; (d) prepare for an admissions interview.

The committee prepares recommendation letters for approved applicants.



UNIVERSITY CURRICULA

UNIVERSITY CURRICULA

DEGREE PROGRAMS

California State University, Fullerton offers the following baccalaureate degree programs which are described on the pages listed:

	Page
B.A. American Studies	201
B.A. Anthropology	204
B.A. Art	94
B.A. Biological Science	301
B.A. Business Administration	133
B.A. Chemistry	311
B.S. Chemistry	310
B.S. Child Development	158
B.A. Communications	213
B.A. Communicative Disorders	292
B.A. Comparative Literature	223
B.S. Computer Science	318
B.A. Criminal Justice	221
B.S. Earth Science	322
B.A. Economics	138
B.S. Engineering	328
B.A. English	224
B.A. Ethnic Studies (with concentrations in Afro-American studies and Chicano studies)	198, 209
B.A. French	231
B.A. Geography	244
B.A. German	231
B.A. History	249
B.S. Human Services	174
B.A. Latin American Studies	256
B.A. Liberal Studies	258
B.A. Linguistics	260
B.A. Mathematics	347
B.A. Music	105
B.M. Music	108
B.S. Nursing	176
B.A. Philosophy	263
B.S. Physical Education	164
B.A. Physics	355
B.A. Political Science (including concentration in public administration)	268
B.A. Psychology	274
B.A. Religious Studies	280
B.A. Russian and East European Area Studies	284
B.A. Sociology	285
B.A. Spanish	231
B.A. Special Major	92
B.A. Speech Communication	292
B.A. Theatre Arts	119

The following master's degree programs are offered:

	Page
M.A. American Studies	364
M.A. Anthropology	365
M.A. Art	366
M.A. Biology	368
M.B.A. Business Administration	369
M.A. Chemistry	372
M.A. Communications	374
M.A. Communicative Disorders	408
M.A. Comparative Literature	375
M.S. Computer Science	376
M.S. Counseling	377
M.A. Economics	377
M.S. Education (with concentrations in bilingual/bicultural education [Spanish-English], elementary curriculum and instruction, higher education, reading, school administration, special education and teaching English to speakers of other languages)	379–385
M.S. Engineering	386
M.A. English	388
M.S. Environmental Studies	389
M.A. French	389
M.A. Geography	390
M.A. German	391
M.A. History	392
M.A. Linguistics	392
M.S. Management Science	394
M.A. Mathematics	396
M.A. Music	398
M.M. Music	398
M.S. Physical Education	399
M.A. Political Science	400
M.A. Psychology	401
M.S. Psychology (Clinical/Community)	402
M.P.A. Public Administration	403
M.A.T. Science	405
M.A. Social Sciences	405
M.A. Sociology	406
M.A. Spanish (including emphasis in bilingual studies)	407
M.A. Special Major	92
M.A. Speech Communication	408
M.S. Taxation	409
M.A. Theatre Arts	411
M.F.A. Theatre Arts (Technical Theatre and Design)	412

Within some of the degree programs listed above, areas of concentration (including emphases, options or sequences of courses) in addition to those shown, are possible. Students should consult the appropriate program, department, division or school.

OTHER CURRICULA

Programs also are offered which lead to the award of a minor for the baccalaureate degree. In addition, programs leading to credentials and certificates are available. More specific information may be found in the appropriate curricular sections of this catalog. For further information, students should consult the particular program, department, division or school.

COURSE DESCRIPTIONS

Course descriptions briefly describe the content or subject matter to be covered and provide additional information on units of credit, the level of instruction (see general course numbering code), prerequisites and the type of course (lecture, laboratory, activity, seminar and individually supervised work).

GENERAL COURSE NUMBERING CODE

100–299 Lower-division courses of freshman and sophomore level, but open also to upper-division students.

300–399 Upper-division courses of junior and senior level, which do *not* give graduate credit unless included on an approved graduate study plan (such as a credential or graduate degree program) for a specific graduate student.

400–499 Upper-division courses of junior and senior level which give graduate credit when taken by a graduate student. (Note limitations in specific graduate programs.)

500–599 Graduate courses organized primarily for graduate students.

700–701 Course numbers which provide opportunity for graduate and postbaccalaureate students who are not enrolled in regular courses to maintain continuous enrollment during a particular semester. These classes do not carry credit.

SPECIAL COURSE NUMBERS

For uniformity, certain types of courses have been listed by all departments and schools with the same numbers: 499 and 599 are used for undergraduate and graduate "independent study"; 196 or 496 for "student-to-student tutorials"; 597 for a graduate "project"; and 598 for a graduate "thesis."

EXPLANATION OF COURSE NOTATIONS

Certain notations are uniformly used in the course descriptions in this catalog.

1. The figure in parentheses following the course title indicates the number of semester units for the course. Courses offered for varying units are indicated as (1–3) or (3–6).
2. A course listing such as Afro-Ethnic Studies 108 (3) (Same as Linguistics 108) indicates that a student taking the course may choose to count it in either of those two disciplines.
3. A notation such as (Formerly 433) following the course title and the number of units indicates the same course previously was numbered 433.

STUDENT-TO-STUDENT TUTORIALS

The "student-to-student tutorial" provides a formal way to encourage students to learn through teaching. It also provides tutoring to all students who need and want tutorial assistance.

In those departments which choose to offer such courses, the courses are numbered 196 or 496 and carry one to three units of credit. The prerequisites include a grade-point average of at least 3.0 and/or consent of the instructor plus simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. The tutor and his/her tutee or tutees will work in mutually advantageous ways by allowing all involved to delve more carefully and thoroughly into the materials presented in this specific course. One to three students may be tutored by the tutor unless the instructor decides that special circumstances warrant increasing the usual maximum of three tutees. Three hours of work per week are expected for each semester unit of credit, and this work may include, apart from contact hours with tutees, such other activities as: tutorial preparations; consulting with instructors; reporting, analysis and evaluation of the tutorial experiences; and participation in an all-university orientation and evaluation program for tutors. A maximum of three units may be taken each semester. No more than three units of any combination of tutorial courses (196 or 496) may count toward an undergraduate degree program. The course must be taken as an elective and not counted toward general education, major or minor requirements. The course can be taken

on a credit/no credit basis by the tutor. Requests for tutors must be initiated by tutees and can be initiated up until the official university census date. Tutors electing to respond to such requests will receive credits at the end of the semester and can register in the course until the official university census date. Both tutors and tutees must submit written reports, analyses and evaluations of their shared tutorial experience to the instructor, and both must participate in an all-university orientation program as well as in any conference or critique that the instructor of the course may require.

Further information can be obtained from the department in which the student is interested in a "student-to-student tutorial."

INDEPENDENT STUDY

Under the independent study program, the student may pursue topics or problems of special interest beyond the scope of a regular course under the supervision of a faculty adviser. The work is of a research or creative nature, and normally culminates in a paper, project, comprehensive examination, or performance. Before registering, the student must get his topic approved by the instructor who will be supervising independent study and by the department chair.

A student may take no more than six units of independent study at the undergraduate level (299 and 499 numbered courses) in a given semester. No more than nine units of independent study may be applied toward completion of the baccalaureate degree. A graduate student may apply no more than six units of independent study (499 or 599 numbered courses) toward completion of a master's degree, unless written approval is obtained from the appropriate school dean.

INTERNATIONAL PROGRAMS

The California State University (CSU) International Programs offers students the opportunity to continue their studies overseas for a full academic year while they remain enrolled at their home CSU campus. The International Programs' primary purposes are to enable selected students to gain a firsthand understanding of other areas of the world and to advance their knowledge and skills within specific academic disciplines in pursuit of established degree objectives.

A wide variety of academic majors may be accommodated by the 25 foreign universities cooperating with the International Programs in 15 countries around the globe. The affiliated institutions are: the University of São Paulo (Brazil); the universities of the Province of Quebec (Canada); the University of Copenhagen (through Denmark's International Student Committee's Study Division); the University of Provence (France); the Universities of Hamburg, Heidelberg, and Tübingen (Germany); the Hebrew University of Jerusalem (Israel); the University of Florence (Italy); Waseda University (Japan); the Ibero-Americana University (Mexico); Massey University and Lincoln University College (New Zealand); the Catholic University of Lima (Peru); National Chengchi University (Republic of China/Taiwan); the Universities of Granada and Madrid (Spain); the University of Uppsala (Sweden); and Bradford University (the United Kingdom). Information on academic course offerings available at these locations is in the International Programs Bulletin which may be obtained from the International Programs representative on campus.

Eligibility for application is limited to those students who will have upper-division or graduate standing at a CSU campus by September 1984, who possess a cumulative grade-point average of 2.75 for all college level work completed at the time of application (some programs require a 3.0 cumulative grade-point average), and who will have completed required language study where applicable. Selection is competitive and is based on home campus recommendations and the applicant's academic record. Final selection is made by the Office of International Programs in consultation with a statewide faculty selection committee.

The International Programs supports all tuition and administrative costs overseas for each of its participants to the same extent that such funds would be expended to support similar costs in California. Students assume responsibility for all personal costs, such as transportation, room and board, and living expenses, as well as for home campus fees. Because they remain enrolled at their home CSU campus while studying overseas, International Programs students earn full resident credit for all academic work completed while abroad and remain eligible to receive any form of financial aid (other than work-study) for which they can individually qualify.

Information and application materials may be obtained from the Office of International Education and Exchange or by writing to The California State University International Programs, 400 Golden Shore, Suite 300, Long Beach, California 90802. Applications for the 1984–85 academic year overseas must be submitted by February 9, 1984 (except for the New Zealand program where applications are due by May 15, 1984).

INTERNATIONAL STUDY COURSES

Cal State Fullerton students under The California State University International Study Programs register concurrently at Cal State Fullerton and at the host institution abroad, with credits assigned to the student which are equivalent to courses offered at Cal State Fullerton. Undergraduate students who discover appropriate study opportunities at the host Institution but no equivalent course at Cal State Fullerton may use Independent Study 499 and International Study 292 or 492. Graduate students may use Independent Graduate Research 599 and International Study 592.

292 Projects in Study Abroad (Subject): (1–6 lower-division units)
Open to students enrolled in California State University International Programs. Study undertaken in a university abroad under the auspices of The California State University.

492 Projects in Study Abroad (Subject): (1–3 upper-division units)
Open to students enrolled in California State University International Programs. Study undertaken in a university abroad under the auspices of The California State University.

592 Projects in Study Abroad (Subject): (1–3 graduate units)
Open to students enrolled in California State University International Programs. Study undertaken in a university abroad under the auspices of The California State University.

LIBRARY COURSES

201 Introduction to Library Resources (1)
A practical introduction to library materials and methods enabling undergraduate students to locate information for course-related, as well as independent study and research.

300 Elements of Bibliographic Investigation (3)
A survey of important information sources in various subject fields and the application of research methods which will enable students to become effective library users. Particular attention is given to the assembling of material for term papers and reports, including the preparation of bibliographies.

302 Library Research Methods for Specific Majors (1)
Library research methodology in special subjects such as business, education and science.

CROSS-DISCIPLINARY UNIVERSITY PROGRAMS

A joint degree program is an endeavor involving two or more existing academic departments which need not be within the same school. Such programs are administered by program councils composed of representatives elected by participating departments. The joint degree programs are housed in administration units as follows:

School of Human Development and Community Service
Child Development, B.S.
Human Services, B.S.
School of Humanities and Social Sciences
Latin American Studies, B.A.
Liberal Studies, B.A.
Russian and East European Area Studies, B.A.
Social Sciences, M.A.
School of Mathematics, Science and Engineering
Environmental Studies, M.S.

The degree descriptions are located within the appropriate school section of this catalog.

BILINGUAL/CROSS-CULTURAL STUDIES

Students may pursue a course of study with a bilingual/cross-cultural emphasis.

Complete course listings and details are available from the Department of Foreign Languages and Literatures, the Department of Chicano Studies, Division of Teacher Education and Educational Opportunity Program advisers.

SPECIAL MAJOR PROGRAM

From the total curriculum of the university, students may wish to plan a specially designed program of study that does not duplicate significantly any existing major or concentration. The special major provides opportunities for selected students to pursue individualized programs of study leading to a degree when legitimate academic and professional goals can be satisfied by a judicious selection of courses from two or more fields, and when these aims cannot be satisfied by the authorized standard degree majors or double majors that are available on the campus (e.g., liberal studies, social sciences). This major, designed for exceptional cases of individual students only, provides an opportunity to develop concentration or specializations outside the framework of existing majors. *(It is not intended as a means of bypassing normal graduation requirements or as a means by which students may graduate who fail to complete the degree major in which they are enrolled.)*

B.A. SPECIAL MAJOR

Students desiring to work for a bachelor's degree with a special major should consult with the Office of Academic Advisement.

1. Entrance to the special major program is normally at the beginning of the junior year (60 units remaining for graduation).
2. The minimum requirement for the major is 48 units. A minimum of 36 upper-division units must be included in the major.
3. Although students may include on their study plans course work in progress and a maximum of 12 units of course work completed prior to the time of filing, approval of these courses is not automatic.
4. No more than six units of 499 (Independent Study) and/or internship course work may be included in the major.
5. Neither lower- nor upper-division courses applied to general education breadth requirements will be applicable toward the major.
6. At least three units of appropriate course work in methodology shall be included in the student's study plan. Where appropriate this requirement may be waived by the University Curriculum Committee.
7. All courses in the major must be taken under Grade Option 1. A GPA of 3.0 in the major is required for graduation.
8. Prior to taking any substitute course work a petition for change of the study plan must be approved by the student's adviser and the University Curriculum Committee.
9. A senior thesis shall be written by the student in this program during the semester preceding graduation. This thesis should show scholarly evidence of the merit in the student's choice of an interdisciplinary program. This paper shall be written under the direction of the student's special major adviser and approved by the faculty designated by the departments represented on the student's study plan.

M.A. SPECIAL MAJOR

A graduate student desiring to work for a master's degree with a special major should consult with the Office of Graduate Affairs and fill out an initial request form available at that office.

1. Entrance to the special major program requires a grade-point average (GPA) of 3.0 in the undergraduate major and a GPA of 3.0 in the last 60 units of course work.
2. The minimum requirement of units in the special major program is 30 units of which at least half must be graduate courses (500 level).
3. Although students may include on their proposed study plan course work in progress or completed prior to the time of filing, approval of these courses is not automatic. No more than nine units of course work taken prior to classified standing can be approved on the program.
4. The program may contain no more than six units of Independent Study, Project or Thesis.
5. All courses on the study plan must be taken under Grade Option 1. A GPA of 3.0 is required on all work on the study plan.
6. Prior to taking any substitute course work, a petition for change of the study plan must be approved by the student's graduate adviser and graduate committee.
7. A thesis or project shall be required for the completion of the program. The completed thesis will be filed with the Library; whereas the project shall be filed with the Office of Graduate Affairs.



THE ARTS

SCHOOL OF THE ARTS

Dean: Jerry Samuelson
Associate Dean: Frank Cummings, III

DEPARTMENT OF ART

FACULTY
George James
Department Chair

Robert Caddes, Alvin Ching, Eileen Cowin, Frank Cummings, III, Darryl Curran, Robert Ewing, Dextra Frankel, Maurice Gray, Raymond Hein, Thomas Holste, Dorian Hunter, Jimmie Jenkins, Lawrence Johnson, G. Ray Kerciu, Ruth Kline, Naomi Knox, Donald Lagerberg, Clinton MacKenzie, Bryn Manley, Theodore Phillips, Robert Partin, Albert Porter, Leo Robinson, Jerry Rothman, Jerry Samuelson,* Victor Smith, Jon Stokesbary, Vincent Suez

The Department of Art offers a program which includes the scholarly fields of art history, theory, analysis and criticism; the studio fields of drawing and painting, printmaking, sculpture, crafts (including fibers, jewelry, wood and metal), ceramics (including glass), graphic design, illustration, environmental design, exhibition design, and creative photography; and the single subject teaching field of art education.

The general objective of the art program is to provide a comprehensive learning environment which contributes technically and conceptually to the development of the creative artist, the art scholar, and the art teacher. More specifically, the art program provides opportunities for students: (1) to develop a knowledge and understanding of fundamental visual experiences and concepts basic to many forms and fields of art; (2) to develop a critical appreciation of historical and contemporary art forms as they relate to individual and social needs and values; (3) to express creatively one's personal experience and thought with skill and clarity in visual terms; and (4) to develop those understandings and skills necessary to pursue graduate studies in the field, to qualify for a position in business and industry as an art specialist, or to teach art in the schools.

Although the art program is oriented primarily toward the art professional, the department also offers courses for the non-art major and the art minor which enrich visual experiences and understandings. Art department advisers will recommend courses which provide skills and concepts for the non-professional and which relate the visual arts humanistically to culture, environment, consciousness and perception.

BACHELOR OF ARTS IN ART

Three different program plans meet the individual interest and needs of students working for the bachelor of arts degree in art. In the development of specific course offerings which make up these different program plans, it is the concern of the art faculty that each plan contains: (1) basic courses in art history, theory, analysis, criticism and studio practice which have as their primary focus the study of broad, fundamental concepts and skills underlying many fields of art; (2) specialized courses which provide concentration preparation in depth in a single field of art. The teaching of art history, theory, and criticism is not confined to courses bearing that title. Rather, each studio course involves theory and analysis as well as the practice of art, includes as part of its content the study of related art-historical concepts and form, and has as part of its purpose the development of critical abilities necessary to understanding and evaluating art.

Plan I is for students specializing in art history, theory analysis and criticism and is particularly recommended for those students who wish to pursue graduate studies in art history or museology.

Plan II is for students specializing in studio performance with a preprofessional orientation an area of specialization selected from: (1) drawing and painting; (2) printmaking; (3) sculpture; (4) crafts (including emphases in fibers, jewelry, wood or metal); (5) ceramics (including emphasis in glass); (6) graphic design; (7) illustration; (8) environmental design; and (9) creative photography.

Plan III is for those students who wish to meet the requirements for single subject instruction (Ryan Act) for teaching art in grades K-12.

---

* University administrative officer

Plan I requires a minimum of 60 units in art or approved related courses with a minimum of 36 units of upper division in art. Plan II requires a minimum of 60 units in art with a minimum of 33 units of upper division in art. Plan III requires a minimum of 54 units of art including a minimum of 27 units of upper-division art.

Students must pass Art 300 and the Cal State Fullerton Examination in Writing Proficiency before achieving senior standing (90 units).

In addition to the requirements listed below for the major, students must meet the other university requirements for a bachelor of arts degree. Students following Plan III must meet any specific requirements for the desired teaching credential (see section in catalog for School of Human Development and Community Service).

To qualify for a baccalaureate degree with a major in art, students must have a C or better in all courses required for the degree. No credit toward the major will be allowed for specific major courses in which a grade of D is obtained.

PLAN I: ART HISTORY *Units*

Preparation for the Major: 201A,B; 6 units of studio courses; approved electives (12 units) in art, American studies, anthropology, foreign languages, history, literature, music, philosophy, or theater 24

The Major: 24 units of upper-division art history to be taken from the following: 300, 301, 302, 321, 411, 412, 431, 432, 460A, 460B, 461A, 461B; 481; and 6 units of approved upper-division electives 36

PLAN II: STUDIO

Drawing and Painting

Preparation for the Major: Art 103; 104; 107A,B; 117 (3 units); 201A,B and 207A,B 27

The Major: Art 307A,B; 317A,B; 487A,B or C (6 units); 6 units of upper-division art history; Art 300; and 6 units of upper-division art electives 33

Printmaking

Preparation for the Major: Art 103; 104; 107A,B; 117 (3 units); 201A,B; 247; and 3 units of art electives 27

The Major: 307A; 317A; Art 347A,B; 487D (6 units); 6 units of upper-division art history; Art 300; and 6 units of upper-division art electives 33

Sculpture

Preparation for the Major: Art 103; 104; 107A,B; 117 (3 units); 201A,B; 216A,B 27

The Major: Art 316A,B; 336A,B; 486A or B (6 units); 6 units of upper-division art history; Art 300; and 6 units of upper-division art electives 33

Crafts

Preparation for the Major: Art 103; 104; 107A,B; 201A,B; 205A,B; and 3 units selected from 106A, 117 (3 units), 123B, 213A or 216A 27

The Major—General Crafts: Art 305A; 315A; 325A; 330 or 355A or 365A; 12 units selected from 305B, 315B, 325B, 485A, 485B, 485C, 485D, 485E or 485F; 6 units of upper-division art history; and Art 300 33

The Major—Jewelry/Metalsmithing: Art 305A; 315A,B; 325A,B; 9 units selected from 485A and/or 485C; 6 units of upper-division art history; and Art 300 33

The Major—Fibers: Art 330; 355A,B; 365A,B; 6 units selected from 485D, 485E or 485F; 6 units of upper-division art history; Art 300; and 3 units of upper-division art electives 33

The Major—Wood: Art 305A,B; 315A; 325A; 9 units of 485B; 6 units of upper-division art history; Art 300; and 3 units of upper-division art electives 33

Ceramics

Preparation for the Major: Art 103; 104; 106A,B; 107A,B; 117 (3 units); 201A,B 27

The Major: Art 306A,B; 326A,B or 426A,B; 484A or B (6 units); 6 units of upper-division art history; Art 300; and 6 units of upper-division art electives 33

Graphic Design

Preparation for the Major: Art 103; 104; 107A,B; 117 (3 units); 201A,B; 223A,B 27

The Major: Art 323A,B; 338A; 363A; 483A (6 units); 6 units of upper-division art history; Art 300; and 6 units of upper-division art electives 33

Illustration

Preparation for the Major: Art 103; 104; 107A,B; 117 (3 units); 123A; 201A,B; and 3 units of art electives 27

The Major: Art 317A,B; 323A; 363A,B; 483C (6 units); 6 units of upper-division art history; Art 300; and 3 units of upper-division art electives 33

Environmental Design

Preparation for the Major: Art 103; 104; 107A,B; 123B; 201A,B; 213A; and 3 units of art electives 27

The Major: 313A,B; 333A,B; 453A; 483B (6 units); 6 units of upper-division art history; Art 300; and 3 units of upper-division art electives 33

Creative Photography

Preparation for the Major: Art 103; 104; 107A,B; 117 (3 units); 201A,B; 247; and 3 units of art electives 27

The Major: 338A,B; 347A; 489 (6 units); 6 units of upper division art history; 6 units selected from 307A, 323A, 347B, 363A; Art 300; and 3 units of upper-division art electives 33

PLAN III: TEACHING

Single Subject Instruction—Ryan Act

(Qualifies for teaching art in grades K-12)

Preparation for the Major: Art 103; 104; 106A; 107A,B; 117 (3 units); 201A,B; 205A 30

The Major: (Select one of the following areas)

Drawing and Painting: 300 and 307A,B; 310A; 317A; 338A; 347A; 402, or 411 or 412; and 441A,B 30

Crafts: 300 and 305A; 306A,B; 307A or 310A; 315A; 330; 402 or 411 or 412; and 441A,B 30

Graphic Design and Photography: 300; 307A or 310A; 323A,B; 338A,B; 363A; 402 or 411 or 412; and 441A,B 27

Professional Preparation

Art Ed 442 3

Education course work 9

Student teaching (one semester full time) 12

Program Requirements:

1. Assignment by the Art Department chair to a faculty adviser in art education.
2. Fulfill credential requirements listed in this catalog within the School of Human Development and Community Service for the curriculum pertinent to the Ryan Act provisions.
3. Meet the requirements listed under Plan III, Teaching for the bachelor's degree in art.
4. Completion of the major requirements prior to enrolling in the teacher education program.
5. Admission to teacher education through the School of Human Development and Community Service is required prior to enrollment in Art Ed 442 and student teaching.
6. Acceptance for teacher education and student teaching is based on candidate quotas, a review of a candidate's portfolio of art work, and evidence of success in completed university course work.
7. Recommendation by the faculty adviser in art education.

Upon completion of the above program and the bachelor of arts degree, the student is eligible for a partial credential, which meets state requirements for teaching in grades K–12. Within a specified period of time from the beginning of a teaching assignment, 30 units of course work must be completed at an accredited college or university to qualify for a full credential. Credentials are issued from the institution where this unit requirement has been completed.

Multiple Subject Instruction—Ryan Act

The following three courses are recommended for all students intending to teach in the elementary schools in multiple subject classrooms:

	Units
Art 380	3
Music 333	3
Theatre 402A	3
	9

The following additional list of courses would be strongly recommended for any student who wishes to expand his/her knowledge in any or all of the arts:

Art 100, 101, 103, 104, 106A, 107A, 201A,B, 310A,B, 330, 380, 441A,B

Music 111A,B, 184A,B, 251, 281P,B,S,W, 283, 381

Theatre 100, 101, 112, 122, 132, 142, 162, 206A,B, 263, 276A, 277, 323A,B, 370A,B, 402A,B, 403A,B, 422

MINOR IN ART FOR THE BACHELOR OF ARTS DEGREE

A minimum of 24 units is required for a minor in art for the bachelor of arts degree of which a minimum of 10 units must be in upper division courses. Included in the program must be a basic course in each of the following areas: (1) art history, theory, analysis and criticism; (2) design; (3) drawing and painting; and (4) crafts. Those students planning to qualify for a standard teaching credential with specialization in elementary or secondary teaching and art for a minor must obtain approval from the Art Department for the courses selected to meet the upper division requirements for a minor in art.

MASTER OF ARTS IN ART

See "Graduate Programs."

ART COURSES

100 Exploratory Course in Art (3)
Use of a variety of art materials, processes, and concepts. Field trips required. Not open to art majors for credit except by permission of Art Department. (6 hours activity)

101 Introduction to Art (3)
Historical and contemporary art forms of painting, sculpture, architecture, and design. Field trips required. Not open to art majors for credit except by permission of Art Department.

103 Two-dimensional Design (3)
Materials, concepts, and elements of two-dimensional visual organization (6 hours activity)

104 Three-dimensional Design (3)
Materials, concepts, and elements of three-dimensional visual organization (6 hours activity)

106A Beginning Ceramics (3)
Form as related to ceramic materials, tools, processes. Kiln loading and firing, hand building, wheel throwing and raku. (9 hours laboratory)

106B Beginning Ceramics (3)
Prerequisites: Art 106A. Form as related to ceramics. Glaze batching, and its application, and the presentation of ceramic technique. (9 hours laboratory)

107A,B Beginning Drawing and Painting (3,3)
The traditional and contemporary use of drawing and painting materials integrated with visual experiences and concepts. 107A emphasizes drawing; 107B emphasizes painting. (6 hours activity)

117 Life Drawing (1)
The live model. May be repeated to a maximum of 4 units. (3 hours activity for each unit)

123A,B Descriptive Drawing (3,3)
Traditional and contemporary drawing techniques and theories. 123A, representation of nature forms; 123B, manmade and mechanical forms including linear perspective. (6 hours activity)

201A,B Art and Civilization (3,3)
The ideas, forms and styles of the visual arts as they developed in various cultures from prehistoric time to the present.

205A Beginning Crafts (3)
Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. Craft concepts, processes and materials and the development of esthetic forms based on function. (9 hours laboratory)

205B Beginning Crafts: Wood (3)
Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. Woodworking concepts and processes and the development of wood into esthetic form based on function. (9 hours laboratory)

207A,B Drawing and Painting (Experimental Methods and Materials) (3,3)
Prerequisites: Art 117, 107A,B or equivalents. Traditional and contemporary methods and materials. (6 hours activity)

213A Beginning Environmental Design (3)
Prerequisites: Art 103 and 104. Design methodology and communication skills in the environmental design field. (6 hours activity)

213B Interior Space Planning and Design (3)
Prerequisites: Art 103, 104, 213A or consent of instructor. The planning and organization of residential and commercial interior space. (6 hours activity)

216A,B Beginning Sculpture (3,3)
Prerequisite: Art 104. sculpture: The creative use of wood and metal, power equipment and hand tools. (9 hours laboratory)

223A,B Lettering, Typography and Rendering (3,3)
Prerequisite: Art 103. The history, design and use of letter forms; techniques for rough and comprehensive layouts; the use of hand-lettered forms and handset type. (6 hours activity)

226 Beginning Glass Forming (3)
Hot glass laboratory equipment and techniques. Handling hot glass. (9 hours laboratory)

247 Beginning Printmaking (3)
Prerequisite: Art 107A,B. Printmaking forms; litho, etching, woodcut and serigraphy. (9 hours laboratory)

300 Writing in the Visual Arts (3)
Principles, practices and objectives of writing in the visual arts. Includes descriptive, analytical and expressive essays; project and grant proposals; artist's statements; resumes; and professional correspondence.

301 Ancient Art (3)
The developments in art from the Paleolithic to late antiquity.

302 Medieval Art (3)
The developments in art from the late antiquity through the Gothic.

305A Advanced Crafts (3)
Prerequisite: Art 205A. Craft concepts, processes, and materials and the development of esthetic forms based on function. (9 hours laboratory)

305B Advanced Crafts: Wood (3)
Prerequisite: Art 205B. Craft concepts and processes and the development of wood into utilitarian and esthetic form. (9 hours laboratory)

306A,B Advanced Ceramics (3,3)
Prerequisite: Art 103, 104 and 106A,B. Forms and the creative use of ceramic concepts and materials; design, forming, glazing and firing. (9 hours laboratory)

307A,B Drawing and Painting (3,3)
Prerequisites: Art 107A,B, 117, 207A,B or equivalents. The concepts, materials and activities of drawing and painting, emphasizing individual growth, plan and craft. (6 hours activity)

310A,B Watercolor (3,3)
Prerequisite: Art 107A,B or equivalents. An exploration of watercolor media related to varied subject matter and design applications. Includes field trip activity. Provides skills and concepts useful for school art programs. (6 hours activity)

313A Environmental Design: Unit Concepts (3)
Prerequisites: Art 103, 104 and 213. Environmental design projects and the study of unit concepts. (6 hours activity)

313B Environmental Design: Systems Concepts (3)
Prerequisite: Art 313A. Environmental design projects and systems concepts. (6 hours activity)

315A,B Jewelry (3,3)
Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. Design and creation of jewelry. (9 hours laboratory)

316A,B Sculpture (3,3)
Prerequisites: Art 104 and 216A. Sculptural materials and processes. (9 hours laboratory)

317 Life Studies (3)
Prerequisites: three units lower division life drawing. Drawing, painting and sculpture from the live model. (9 hours laboratory)
317A Drawing and Painting
317B Drawing and Painting
317C Sculpting

318 Drawing and Painting: the Human Head and Hands (3)
Prerequisites: Art 107A,B and 3 units of lower division life drawing. Construction, anatomy and pictorial use of the human head and hands. (9 hours laboratory)

320 History of Architecture Before the Modern Era (3)
A study of selected monuments from Stonehenge through the late Baroque. Interrelationship between patronage, style, function, structural principles and technological developments.

321 The Art of Asia (3)
Prerequisite: Art 201A,B or consent of instructor. An introduction to the art of the major civilization of Asia—India, Southeast Asia, China, Japan—from earliest times to the present. Emphasis on esthetic achievement within historical, religious and cultural contexts.

323A,B Graphic Design (3,3)
Prerequisites: Art 103 and 223A. Development and projection of ideas in relation to the technical, esthetic, and psychological aspects of advertising art. (6 hours activity)

325A,B Metalsmithing (3,3)
Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. Metalsmithing concepts, processes and materials; utilitarian forms, raising, silversoldering, forging, casting, engraving, chasing and repousse. (9 hours laboratory)

326A,B Ceramic Sculpture (3,3)
Prerequisites: Art 103, 104, 117 or consent of instructor. Development of ceramic technology into individual sculptural forms and techniques. (9 hours laboratory)

330 Fibers and Papers (3)
Prerequisites: Art 103 and 104, or consent of instructor. The use of fibers and papers as an art form. (9 hours laboratory)

333A Environmental Design (3)
Prerequisite: Art 313B. Materials and structural concepts as design determinants. (6 hours activity)

333B Environmental Design (3)
Prerequisite: Art 333A. Change and growth as design determinants; experimental design concepts and methods. (6 hours activity)

336A,B Casting Techniques and Theories of Cast Sculpture (3,3)
Prerequisite: Art 316A. Waxing, molding and metal casing techniques. Aluminum and bronze and the lost wax process. (9 hours laboratory)

338A Creative Photography (3)
Prerequisite: Art 103 or its equivalent. The photographic media in personal expression. Historical attitudes and processes; new materials and contemporary esthetic trends. Field trips required. (9 hours laboratory)

338B Creative Photography (3)
Prerequisite: Art 338A. The photographic medium in personal expression. Historical and new processes. Field trips required. (9 hours laboratory)

339 Photo-Illustration (3)
Prerequisites: Art 103 and 338A. The use of specialized photographic techniques such as lighting, camera position, color and motion for solutions to illustration problems of narration, visual description, juxtaposition and imagery. (9 hours laboratory)

347A Printmaking—Etching (3)
Prerequisites: Art 107A,B, 117, and 247. Concept development, exploration and materials involved in printmaking techniques. Includes etching, aquatint. (9 hours laboratory)

347B Printmaking—Lithography (3)
Prerequisites: Art 107A,B, 117, and 247. Concept development, exploration and materials involved in lithography. (9 hours laboratory)

352 The Theory of Video Art (3)
Prerequisite: Art 201B. Theory and history of the development of video and performance art. Includes technical development, esthetics, personalities, and the relationships to other visual and performing fine arts and the popular arts.

355A,B Fibers: Fabric Printing and Dyeing (3,3)
Prerequisites: Art 103, 107A or B or consent of instructor. Design concepts and printing and dyeing processes as applied to fabrics. (9 hours laboratory)

363A,B Illustration (3,3)
Prerequisites: Art 103, 107A,B and 117. Story, book, magazine, and film illustration. (6 hours activity)

364A,B Stained Glass (3,3)
Leaded and stained glass; individual exploration, growth, planning and craftsmanship. (6 hours activity)

365A,B Fibers: Weaving (3,3)
Prerequisites: Art 103 and 104 or 205A,B or consent of instructor. The use of the loom and weaving processes to design and create fiber and fabric art forms. (9 hours laboratory)

373 Methods in Exhibit Design (3)
Prerequisites: Art 103 and 123B. Exhibition Design: spatial concepts, modular systems, traffic patterns, and object visual criteria. Drawings, working and finished models, and material specifications.

380 Art and Child Development (3)
Art concepts, materials, and processes as they relate to child development. (6 hours activity)

402 Contemporary Art (3)
Perspectives and esthetics in specific works of art and the relationship between art and society.

411 Foundations of Modern Art (3)
Painting and sculpture of the realism, impressionism, post-impressionism periods.

412 Art of the 20th Century—1900 to Present (3)
Fundamentals of modern painting, graphics and architecture.

420 History of Modern Architecture (3)
Development of modern architecture. The interrelationship among architecture, technology and society, from the industrial and political revolutions of the 18th century to the present. Exploration of national differences and various approaches to city planning.

421 The Art of India (3)
Prerequisites: Art 201A,B or 321 or consent of instructor. A survey of the art and architecture of India from Neolithic times to the decline of Muslim rule in the 18th century. Emphasis on esthetic achievement within historical, religious, and cultural contexts.

423A,B Film Animation (3,3)
Prerequisites: Art 103, 104, 107A,B and 117. Esthetic and technical considerations of animation in the production of film. (6 hours activity)

426A,B Glass Forming (3,3)
Prerequisites: Art 206A,B, 306A, and consent of instructor. The chemistry, handling and manipulation of glass and its tools and equipment for the ceramic artist. (9 hours laboratory)

431 Renaissance Art (3)
Painting, sculpture and architecture of the Renaissance period. Lectures, discussion and field trips.

432 Baroque and Rococo Art (3)
Painting, sculpture and architecture of the Baroque and Rococo period. Lectures, discussion and field trips.

438A,B Creative Color Photography (3,3)
Prerequisites: Art 338A,B. Concepts and techniques in creative color photography. Historical attitudes and contemporary trends. Personal involvement with the medium. (9 hours laboratory)

441A,B Media Exploration for Teaching Art (3,3)
Prerequisites: Art 103, 104, 107A,B, 205A or consent of instructor. Exploring the art media used in secondary school art programs today. Materials for secondary art curriculum. Two and three dimensional media in subject matter applications. (6 hours activity)

443 Studio Graphics (3)
Prerequisites: Art 223A,B and 323A,B. Admission by interview and portfolio review. Studio production of graphics for the School of the Arts, including printed mailers, posters, booklets, catalogs, advertisements. Students experience designer/client relationships and translate concepts into production. (9 hours activity)

453A,B Exhibition Design (3,3)
Technical and esthetic experience in problem-solving exhibition design concepts, evaluation, and design analysis. The production of exhibitions in the University Art Gallery, their selection, design, installation, lighting, and supportive interpretive material. (More than 9 hours laboratory)

460A Native North American Art (3)
Prerequisites: Art 201A,B or consent of instructor. A study of prehistoric and ethnographic Indian and Eskimo arts. Emphasis on esthetic achievement of masks, dress, sculpture, painting, architecture, pottery, and basketry within varying contexts of Native American culture.

460B Pre-Columbian Art (3)
Prerequisites: Art 201A,B or consent of instructor. An introduction to the art and architecture of Meso and South America from the early formative stage to the Spanish Conquest. Emphasis on esthetic achievement with varying contexts of Pre-Columbian culture.

461A American Art: Colonial Period to 1900 (3)
The historical development of painting and sculpture in America from the Colonial Period until 1900. The role of the visual arts in helping to define, reflect and challenge American values and institutions.

461B American Art: 20th Century (3)
Painting and sculpture in America during the 20th century. The role of the visual arts in helping to define, reflect and challenge American values and institutions.

463 Museum Studies (3)
Prerequisites: Art 453A, six units of art history or anthropology, and consent of instructor. Museums, their structure, function and operation. Museum governance, ethics, grant proposal preparation, conservation and educational programming.

470 History and Esthetics of Photography (3)
Prerequisites: 201A,B. Photography from ancient optical observations through 19th century invention to 20th-century acceptance as an art form. Esthetic movement and influential innovators. Lectures, slides and class discussion.

481 Seminar in Art History (3)
Prerequisite: consent of instructor. Study and evaluation in one area of art history and appreciation. May be repeated up to a maximum of 6 units.

483 Special Studies in Design (3)
Prerequisite: consent of instructor. Maximum of 12 units, but no more than 3 units in any one area in a single semester.

483A Graphic Design (6 hours activity)
483B Environmental Design (6 hours activity)
483C Design and Composition (6 hours activity)
483D Exhibition Design (More than 9 hours laboratory)

484A Special Studies in Ceramics (3)
Prerequisite: a minimum of six upper-division units in ceramics. Maximum of 12 units, but not more than three units in any one area in a single semester. (9 hours laboratory)

484B Special Studies in Glass (3)
Prerequisite: a minimum of six upper-division units in glass. Maximum of 12 units, but not more than three units in any one area in a single semester. (9 hours laboratory)

485 Special Studies in Crafts (3)
Prerequisite: a minimum of six upper-division units in designated area or consent of instructor. Maximum of 12 units, but no more than three units in any one area in a single semester. (9 hours laboratory)

485A Jewelry
485B General Crafts
485C Metalsmithing
485D Fibers—Weaving
485E Fibers—Fabric Printing and Dyeing
485F Fibers and Fabrics

486 Special Studies in Sculpture (3)
Prerequisites: Art 316A,B and consent of instructor. Maximum of 12 units but no more than three units in a single semester. (9 hours laboratory)
486A Modeling and Fabrication
486B Casting

487 Special Studies in Drawing and Painting and Printmaking (3)
Prerequisites: a minimum of six upper-division units in drawing and painting and consent of instructor. Maximum of 12 units, but no more than three units in any one area in a single semester.
487A Painting (6 hours activity)
487B Life Drawing (9 hours laboratory)
487C Drawing (6 hours activity)
487D Printmaking (9 hours laboratory)

489 Special Studies in Creative Photography (3)
Prerequisite: Art 338A,B. Photography as personal expression. Maximum of 12 units but no more than three units may be obtained in a single semester. (9 hours laboratory)

490 Professional Seminar (3)
Guest speakers from professions in the visual arts. A lecture/discussion seminar relevant to current issues and concepts in making and experiencing art. Topics will differ each semester. For the senior and graduate art major.

498 Internship in Art (3)
Work in a specific art field in business or industry. Must be senior standing.

499 Independent Research (1–3)
Open to advanced students in art with consent of department chair and written consent of instructor. May be repeated for credit.

500A Graduate Seminar in Major Field (3)
Prerequisite: classified standing. Problems and issues in art. Intellectual clarification and verbal articulation of individual intent as an artist. Oral and written material in support of the master's project.

500B Graduate Seminar in Major Field (3)
Prerequisite: Art 500A. Directed research in the area of major emphasis. Oral and written material on historical backgrounds and developments in art as they relate to individual intent as an artist (stated in Art 500A) and in support of the master's project.

501 Curatorship (3)
Prerequisites: B.A. in art, anthropology or other major by special permission, and Art 481 and 463. The curator who collects, cares for and studies objects.

503 Graduate Problems in Design (3)
Prerequisite: consent of instructor. Planning, development, and evaluation of individual projects listed below. Maximum of 12 units in each area, but no more than three units in any one area in a single semester.
503A Graphic Design (6 hours activity)
503B Environmental Design (6 hours activity)
503C Design and Composition (6 hours activity)
503D Exhibition Design (More than 9 hours laboratory)

504 Graduate Problems in Ceramics (3)
Prerequisite: consent of instructor. Planning, development and evaluation of individual projects in ceramics. Maximum of 12 units but no more than three units in a single semester. (9 hours laboratory)

505 Graduate Problems in Crafts (3)
Prerequisite: consent of instructor. Planning, development, and evaluation of individual projects listed below. Maximum of 12 units but no more than three units in a single semester. (9 hours laboratory)
505A Jewelry
505B General Crafts
505D Fibers—Weaving, Fibers and Fabrics

506 Graduate Problems in Sculpture (3)
Prerequisite: consent of instructor. Planning, development, and evaluation of individual projects in sculpture. Maximum of 12 units but no more than three units in a single semester. (9 hours laboratory)

507 Graduate Problems in Drawing, Painting and Printmaking (3)
Prerequisite: 12 units of upper-division drawing and painting. Planning, development and evaluation of individual projects listed below. Maximum of 12 units but no more than three units in a single semester.

507A Painting (6 hours activity)
507B Life Drawing (9 hours laboratory)
507C Drawing (6 hours activity)
507D Printmaking (9 hours laboratory)

511 Seminar on the Content and Method of Art History (3)
Prerequisite: Art 481. Methods of research, bibliography, and theories and philosophies of art historical scholarship. May be repeated up to a maximum of 6 units.

512 Seminar on Selected Topics in Art History (3)
Prerequisite: appropriate upper-division Art course approved by instructor and Art 511 or consent of instructor. Analysis and evaluation of specific historical significance including cultural, social and economic circumstances. May be repeated up to a maximum of 6 units.

597 Project (3 or 6)
Prerequisites: Art 500A,B, written consent of instructor and recommendation of the student's graduate committee. Art 500B may be taken concurrently with Art 597 on approval of instructor. Development and presentation of a creative project in the concentration beyond regularly offered coursework.

598 Thesis (3 or 6)
Prerequisites: Art 511, 512, written consent of instructor and recommendation of the student's graduate committee.

599 Independent Graduate Research (1–3)
Open to graduate student in art with consent of department chair and written consent of instructor. May be repeated for credit.

ART EDUCATION COURSES

442 Teaching Art in the Secondary School (3)
Prerequisite: admission to teacher education. Objectives, methods, and materials including audiovisual instruction for teaching art in secondary school. Required before student teaching of majors in art for the standard teaching credential.

449A Student Teaching Secondary School, Art (10)
For candidates who have declared for the Ryan Act credential. See description and prerequisites under Division of Teacher Education. Concurrent enrollment in Art Education 449B required.

449B Seminar in Secondary School Student Teaching, Art (2)
Seminar for student teachers in art. The practical aspects of art instruction in secondary schools. Concurrent enrollment in Art Education 449A is required.

DEPARTMENT OF MUSIC

FACULTY
David Thorsen
Department Chair
Charles Baker, Martha Baker, David Berfield, Carole Chadwick, Andrew Charlton, Keith Clark, Harold Decker, M'lou Dietzer, Rita Fuszek, Burgess Gardner, Kathleen Gjerdingen, Su Harmon, Nors Josephson, Burton Karson, Leo Kreter, Michael Kurkjian, Dimitrie Leivici, Gary Maas, Todd Miller, Benton Minor, William Nicholls, Gordon Paine, Jane Paul, Lloyd Rodgers, Preston Stedman, Robert Stewart, David Thorsen, Laurence Timm, Rodger Vaughan, Mary Mark Zeyen
PART TIME
John Barcellona (flute), Kalman Bloch (clarinet), Kay Brightman (bassoon), Marjorie Call (harp), Stan Friedman (trumpet), Patricia Garside (flute), Pam Goldsmith (viola), Burt Goldstein (composition), David Grimes (guitar), Esther Jones (organ), Teresa Perry (piano), James Rötter (saxophone), Mary Ellen Trefry (flute), Bertram Turetsky (string bass), Leigh Unger

(piano), Earle Voorhies (piano), Hanan Yaqub (choir), Scott Zeidel (guitar)

The Department of Music offers courses for both music and non-music majors. The fundamental purpose of the music curriculum is threefold: (1) to promote excellence in all aspects of music and academic course work; (2) to provide basic preparation for careers in music; and (3) to promote interest in all musical and artistic endeavors in the university and the surrounding community.

REQUIREMENTS OF THE MUSIC DEPARTMENT

1. All entering music majors must register in the Bachelor of Arts degree program for at least the first semester of residence. Students may change the degree objective to the Bachelor of Music upon completion of at least one semester of course work at the university, successful completion of an audition for the program, and recommendation of the coordinator in the appropriate area of concentration. Enrollment in the Bachelor of Music program is limited.
2. Upon entering the university as a new music major or upon officially changing to a major in music, each student will present an audition in the appropriate principal performance area (instrument or voice) and a placement audition in piano. Transfer students will also take a proficiency examination in music theory.
3. All students must pass proficiency examinations in music theory (sight-singing, dictation, keyboard and paperwork) and piano before being approved for graduation. Transfer students may fulfill the theory requirement by passing the entrance examination in theory; first-time students and transfers with insufficient preparation at entrance will normally take the examination in Mu 211. The piano-proficiency requirement may be met by completion of Mu 282B with a passing grade. Students whose principal performance area is piano satisfy the piano proficiency requirement upon reaching 300 level in performance.
4. Each music major must declare a single principal performance area, which must be approved by the coordinator of that area upon completion of the entrance audition. In order to be approved for graduation, each student must achieve at least the 300 level of proficiency in the principal performance area. B.A. Liberal-Arts-option students who elect project option 2 (Mu 497: Project) need reach only the 200 level.
5. Each music major is required to present one or more recitals or a project appropriate to the degree program before being approved for graduation. The project option is available only in the Liberal-Arts and Music-History-and-Theory options of the Bachelor of Arts degree. Recitals at the 300 level of performance are designated Mu 398; recitals at the 400 level of performance are designated Mu 498. See the sections below on the Liberal-Arts and Music-History-and-Theory options for recital/project information applicable to those degrees.
6. Undergraduate music majors are required to participate in a major performance ensemble (Mu 361) and complete it with a passing grade each semester of residence as follows:
   a. Students who declare wind or percussion as the principal performance area must register for band (or orchestra, if designated by the instrumental area coordinator); students who declare a string instrument as principal performance area must register for orchestra; students who declare voice as the principal performance area must register for chorus. (Bachelor of Music students in voice who have reached the 400 level may elect to substitute 361d, Opera Theatre.) A student whose principal performance area is keyboard or classical guitar must register for one of the above major performance ensembles, according to the student's qualifications and subject to audition.
   b. A music major admitted into the Bachelor of Music program, whose principal performance area is keyboard or classical guitar, and who has participated in a major performance ensemble for at least five semesters (a minimum of two semesters at Cal State Fullerton) is thereafter exempt from the major performance ensemble requirement.
   c. The educational purpose of the requirement that all music majors participate in an appropriate major performance ensemble during each semester of residence is to permit each student to experience the highest level of ensemble music-making commensurate with the student's skill. To this end, the band/orchestra and choir programs at Cal State Fullerton are of the traditional graded structure. University Singers (361e), Wind Ensemble (361f) and Symphony Orchestra (361a) are for the most advanced students; University Choir (361b) and Symphonic Band (361c) are for students of less skill or experience; and Men's and Women's Choirs (361m and w, respectively) and University Concert Band (361c) are for those of the least skill or experience. Placement in bands, orchestra and choirs will be based on student ability as determined by the directors of those ensembles. Music majors will be assigned to the ensemble for which they are best qualified. A student does not have the option of satisfying the requirements for participation in a major performance ensemble by

enrolling in an ensemble intended for those of less ability or experience.

7. Applied-music study in the principal performance area is required as stipulated under the requirements for each degree program. The following conditions apply:
   a. If a student pursuing the Bachelor of Arts degree (Music History and Theory) or the Bachelor of Music degree (Composition) reaches the 300 level in the principal performance area before the required units in applied music are completed, Music Department electives may be substituted for the remaining applied music units.
   b. In addition to the four units of applied music required in the principal performance area, Bachelor of Music students in the Composition option must complete six units of applied composition (including the 498 recital) after taking Mu 422a. The 498 recital will consist of a presentation of the student's own compositions.
   c. Students pursuing the Bachelor of Music degree in any option except composition must achieve the 300 level in performance before giving the 398 recital and 400 level in performance before giving the 498 recital. Specific information on jury-level criteria is available from the Music Department office.
   d. In order to receive state-funded lessons in applied music, an undergraduate student (with the exception of a student who is within six units of completing all degree requirements) must be currently enrolled for a minimum of six units of music classes (including applied music), at least two units of which must be in an academic area of music (any course other than performing ensembles and applied music). In addition, the student must maintain a GPA of at least 2.0 in academic music classes, must be making satisfactory progress toward a degree, and must be currently enrolled in the appropriate major performance ensemble, as stipulated in section 6 above. If the student fails to complete with a passing grade either the required six units of music classes or the major performance ensemble, state-funded lessons will be withheld in a subsequent semester. Students are eligible for a maximum of three semesters of state-funded lessons at a given level of performance.
   e. Students in the B.A. program are eligible for a maximum of eight units of state-funded applied music (398 and 497 included). B.M. students are eligible for a maximum of 14 units (398 and 498 included). Regardless of whether or not the student has reached the above maxima, eligibility for state-funded lessons ceases upon completion of the final recital or project appropriate to the degree plan. Students who have completed the final recital or project and still have further units of applied music required under their degree plan will thereafter substitute electives in music.
8. Senior transfer students entering Cal State Fullerton with a major in music, or graduate students in music entering to satisfy the legal waiver for teaching credentials, are expected to complete a minimum of one semester of upper-division course work in music with a GPA of at least 3.0 before they may be approved for admittance to teacher education. Required courses and competencies must be satisfied before the faculty committee will consider endorsing the student's acceptance into the credential program.
9. A music major must maintain a 2.5 GPA in music course work at the university in order to be approved for graduation.
10. All requests for exceptions to departmental or curricular requirements must be directed by petition to the department chair.

MUSIC DEGREE PROGRAMS

The Department of Music offers a variety of courses that lead to baccalaureate and graduate degrees in teaching and the professions. The baccalaureate degree may be earned in either of two degree programs (Bachelor of Arts and Bachelor of Music). Within these programs, a student will pursue an emphasis in liberal arts, music history and theory, music education, performance, composition or accompanying.

BACHELOR OF ARTS IN MUSIC

The Bachelor of Arts in Music shall consist of no fewer than 50 units of music, of which at least 29 shall be upper division (300 level and above). All Bachelor of Arts students must complete the basic requirements listed immediately below and must select and complete the requirements listed in one of three options: Liberal Arts, Music History and Theory or Music Education.

Core Requirements for the Bachelor of Arts in Music	*Units*
Music theory (Mu 111A,B; 211; 319A; 320A)*	14

* In the Music History and Theory option, Mu 320B or 319C may be substituted for Mu 320A.

Music history and literature (Mu 251; 351A,B,C)	12
Principal performance area (Applied Music)	4
Major performance ensemble (Mu 361A,B,C,E,F,H,M,W)	4
	34

Liberal Arts Option

This option allows a student to take an academic major in music without being involved in a program of professional preparation. The degree emphasis is historically the oldest such study plan in music in higher education and represents a liberal-arts response to the highly professional program of the Bachelor of Music degree.

	Units
Core requirements for the Bachelor of Arts degree	34
Additional upper-division units in music	
Music theory (Mu 316 or 318, 323A or 422A)	4
Conducting (Mu 391A or 392A)	2
Senior project (Mu 398 or 497)	1
Music literature (Mu 451–460)	2
Electives (minimum of 6 upper division; no more than 2 units of Mu 171–471)	7
	50

Senior Project

Two options are available to the student, each with a different focus and prerequisite:

Option 1 (Mu 398: Recital): Prerequisite is achievement of 300 level in the area of principal performance one semester before the semester in which the student plans to present the recital. The student will present a brief recital in a regular recital time or in the appropriate workshop (at faculty discretion).

Option 2 (Mu 497: Project): Prerequisite is achievement of 200 level *two* semesters before the semester in which the student plans to present the project. The student will prepare a special project in the senior year which will culminate in a lecture, lecture-recital or other form of public presentation. To the greatest extent possible, this project should be an independent investigation into an area of special interest and should involve minimal faculty guidance. The public presentation will be evaluated by a faculty committee, as is the case with senior recitals, and must be approved by that committee prior to graduation.

In the case of both options, the recital or project will be included when calculating the student's quota of state-funded private lessons.

Music History and Theory Option

This option is designed as a balanced program in music history and theory and provides suitable preparation for advanced degrees in theory, literature or musicology. It also provides basic preparation for advanced study in other fields, such as musical acoustics, music therapy, ethnomusicology, library science in music, and music in industry and recreation.

Students seeking the option in Music History and Theory must submit a paper to the music-history or theory coordinator not later than the beginning of their junior year. Acceptance into the degree program is contingent on the submission of a satisfactory paper.

Allied requirements for the Music History and Theory Option:

1. An academic minor (20 units), approved in writing by the history or theory coordinator.
2. Foreign-language proficiency, preferably German, to be satisfied by one of the following:
   a. Four years of study at the secondary-school level,
   b. Passing an examination given by the Department of Foreign Languages and Literatures, or
   c. Completing with a passing grade the second semester of the beginning university sequence of a foreign language.

	Units
Core requirements for the Bachelor of Arts	34
Music theory (Mu 316, 319B or C)	4
Conducting or composition (Mu 391A or 392A or 422A)	2
Project-proposal preparation (Mu 499)	1
Music-history or theory project (Mu 497)	1
Electives in music (conducting, history, and/or theory)*	8
	50

* A Music History and Theory major may use applied-music units to satisfy elective requirements only with the consent of the coordinator of the music history or theory area (as appropriate), the coordinator of the appropriate principal performance area, and the coordinator of applied music.

Music Education Option

This option is designed to provide in-depth preparation for teaching in the California public schools under the provisions of the Teacher Preparation and Licensing Law of 1970 (Ryan Act).

Instrumental Emphasis:	*Units*
Core requirements for the Bachelor of Arts	34
Orchestral instruments (Mu 281B,P,S and W)	4
Music theory (Mu 323A and 320B, 323B or 324)	4
Conducting (Mu 392A,B)	4
Recital (Mu 398)	1
Electives	3
	50

Vocal-Choral Emphasis:	
Core requirement for the Bachelor of Arts	34
Diction for singers (Mu 390)	1
Orchestral instruments (Mu 281B,P,S,W)	4
Conducting (Mu 391A,B)	4
Literature and interpretation (Mu 453A or B and 457A or B or 468A)	4
Recital (Mu 398)	1
Electives	2
	50

General-Music Emphasis:	
Core requirements for Bachelor of Arts	34
Music and child development (Mu 333)	3
Conducting (Mu 391A,B)	4
Orchestral instruments (Mu 281B,P,S,W)	4
Music in the classroom (Mu Ed 435)	3
Recital (Mu 398)	1
Electives in music	1
	50

TEACHING-CREDENTIAL PREPARATION

Students desiring a California teaching credential in music must complete the following courses prior to enrolling in the professional education program as required by the Division of Teacher Education.

	Units
Instrumental emphasis: Mu Ed 342, 399I, Mu 391A, Mu Ed 444, and Mu 281C,T,X	11
Choral-vocal emphasis: Mu Ed 342, Mu 354, Mu Ed 399V, Mu 392A, 361D	9
*General-music emphasis:** Mu 381, Mu Ed 342, 399V, 441	8

Students who wish to earn a teaching credential in addition to a Bachelor of Arts with a music education option must complete the following:

	Units
Mu Ed 442 (3) and professional education courses Ed-TE 440F and 440S	9
Student teaching, full-time	12
	21

Prior to admission to teacher education, the student must reach 300 level in the principal performance area and pass functional examinations in keyboard and voice. The functional-examination requirements may also be met by completing Mu 282B (piano) and Mu 283 (voice) with minimum grade of B.

Multiple-Subject Instruction—Ryan Act

The following three courses are recommended for all students intending to teach in the elementary schools in multiple-subject classrooms:

	Units
Art 380	3
Mu 333 or 433	3
Theatre 402A	3
	9

* In addition to the above, Mu Ed 436 (c) is recommended for the elementary emphasis.

The following additional courses are strongly recommended for any student who wishes to expand his knowledge of the arts:

Art 100; 101; 103; 107A; 201A,B; 310A,B; and 380
Mu 100; 101; 111A,B; 184A,B; 251; 281B,P,S,W; 283; 381; Mu Ed 435
Theatre 100; 110; 112; 122; 132; 142; 162; 163; 206A,B; 276A; 277; 323A,B; 370A,B; 402A,B; 403A,B; 410C; and 422

BACHELOR OF MUSIC

This degree program is designed to provide training for the highly gifted students who show promise and capability of becoming professional performers and composers.

The degree consists of 132 semester units. A minimum of 70 semester units in music are required, at least 32 of which must be upper division.

Core Requirements for the Bachelor of Music	*Units*
Music theory (Mu 111A,B; 211)	9
Music history and literature (Mu 251; 351A,B,C)	12
Principal performance area (Mu 171)	2
Major performance ensemble (Mu 361)	4
Recital (Mu 498)	1
	28

Composition Specialization	
Core requirements for the Bachelor of Music	28
Music theory (Mu 316; 318; 319A; 319B or 319C; 320A,B; 323A; 422A)	17
Conducting (Mu 391A or 392A)	2
Principal performance area (Applied Music)	4
Applied composition	5
Electives in music	14
	70

Instrumental Specialization	
Core requirements for the Bachelor of Music	28
Music theory (Mu 316, 319A, 320A or B, 323A, 422A)	11
Principal performance area (Applied Music)	10
Recital (Mu 398)	1
Conducting (Mu 392A,B)	4
Chamber music (Mu 362 and 365)	6
Electives in music	10
	70

Keyboard Specialization	
Core requirements for the Bachelor of Music	28
Music theory (Mu 316, 320A or B, 319A, 422A)	9
Music literature (Mu 454A,B)	4
Conducting (Mu 391A or 392A)	2
Recital (Mu 398)	1
Principal performance area (Applied Music)	10
Chamber music (Mu 362 or 363)	3
Accompanying (Mu 386)	1
Pedagogy (Mu 467A,B,C)	6
Harpsichord or organ class (Mu 372 or 373)	1
Electives in music	5
	70

Voice Specialization	
Core requirements for the Bachelor of Music	28
Music theory (Mu 316, 320A or B, 319A, 422A)	9
Music literature (Mu 456; 457A,B)	7
Recital (Mu 398)	1

Principal performance area (Applied Music)	10
Opera theatre (Mu 361D)	2
Diction (Mu 390A,B,C)	3
Conducting (Mu 391A)	2
Pedagogy (Mu 468A,B)	4
Electives in music	4
	70

Allied requirement for voice specialization:

Proficiency in two foreign languages, each to be satisfied by one of the following:

a. Four years study of foreign language at the secondary-school level, or
b. Passing an examination given by the Department of Foreign Languages and Literatures, or
c. Completing the second semester of the beginning university sequence of a foreign language.

Accompanying Specialization

Core requirements for the Bachelor of Music	28
Music theory (Mu 316, 318, 319A, 320A or B, 422A)	11
Music literature (Mu 455, 457A)	5
Principal performance area (Applied Music)	10
Chamber music (Mu 363)	2
Harpsichord class (Mu 372)	1
Organ class (Mu 373)	1
Sight reading (Mu 385)	2
Accompanying (Mu 386)	2
Conducting (Mu 391A)	2
Diction (Mu 390A,B,C)	3
Recital (Mu 398)	1
Electives in music	2
	70

Minor in Music

The minor in music may be used by persons whose majors are in other fields. A maximum of 12 lower-division units may be included in work counted toward the music minor. The music minor requires a minimum preparation of 20 units.

Composite of Lower Division and Upper Division	*Units*
Theory of music (selected from Mu 101; 111A,B; 211; or any 300- or 400-level theory classes for which the student is qualified)	6
Music history and literature (Mu 100; 251; 350 or 351A,B,C; or courses at the 400- or 500-level for which the student is qualified)	5–6
Applied techniques (selected from Mu 183, 184A,B; 281B,P,S,W; 283 or any course in ensemble, conducting, piano, voice or orchestral instruments at the 300- or 400-level for which the student is qualified	8–9
	20

MASTER OF ARTS, MASTER OF MUSIC

See "Graduate Programs."

MUSIC COURSES

100 Introduction to Music (3)

Musical enjoyment and understanding through a general survey of musical literature representative of styles and performance media. Music will be related to other arts through lectures, recordings and concerts. For non-music majors.

101 Music Theory for Non-Music Majors (3)

Basic theory and practical applications to improve music performance and listening skills. Includes sightsinging and relationship to keyboard and simple melodic instruments. For non-music majors.

102 History of Jazz (3)
Historical study of jazz music in America; chronological development and stylistic evolution with consideration of peripheral trends. Emphasis on listening. For non-music majors.

103 History of Rock (3)
Rock music around the world; its origins and the development of national styles. Emphasis on listening. For non-music majors.

111A,B Diatonic Harmony (3,3)
Diatonic harmony and musicianship. Includes scales and intervals, triads and their inversions, harmonizations, nonharmonic tones, modulation and dominant seventh chords. Includes sight-singing, dictation and keyboard harmonizations. (2 hours lecture, 2 hours activity)

171, 271, 371, 471 Individual Instruction (1–2)
Prerequisite: jury recommendation. Individual study with approved instructor. Emphasis on technique and repertoire. Music majors must register for a minimum of one unit per semester. Performance majors approved by jury recommendation should register for two units per semester. Jury examination required. May be repeated for credit.

172 Piano Class for Piano Majors (1)
Prerequisite: placement by coordinator. Group instruction in basic pianistic technique and repertoire. May be repeated for credit. (2 hours activity)

182 Piano Class for Music Majors (2)
Keyboard skills for students whose major performance instrument is not piano. (3 hours activity)

183 Voice Class for Non-majors (1)
Beginning and elementary techniques in singing for the non-music major. May be repeated for credit. (2 hours activity)

184A Piano Class for Non-Majors (1)
Beginning and elementary piano techniques for the non-music major. (2 hours activity)

184B Piano Class for Non-majors (1)
Prerequisite: Music 184A or consent of instructor. Continuation of 184A.

196 Student-to-Student Tutorials (1–3)
Prerequisites: a 3.0 or higher grade-point average and/or consent of instructor and simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. Consult "University Curricula" in this catalog for more complete course description.

203 Ethnic Music (3)
Survey of music from Asia, Africa, Australia, Oceania, and indigenous Indian music from North and South America. Emphasis on musical styles and forms, and religious and ritualistic functions of music in various cultural frameworks.

211 Chromatic Harmony (3)
Prerequisite: Mu 111B. Continuation of Mu 111A,B; the chromatic practice of the 19th century. Secondary dominants; ninth, eleventh and thirteenth chords; sequence, and chromatically altered chords. Includes sightsinging, melodic and harmonic dictation, and keyboard practice. Required of all music majors. (2 hours lecture, 2 hours activity)

251 Survey of Musical Literature (3)
Literature of music in Western civilization. Open to minors and qualified students by consent of instructor. Students should be able to read music as a part of the analysis of form, design and style. Required of majors. (3 hours lecture)

281B,C,P,S,T,W,X Orchestral Instruments (1,1,1,1,1,1,1)
Techniques and materials for teaching orchestral instruments. Required for music education emphasis. Instrumental majors required to fulfill competency requirements for instruments listed in each course description except that of their major performance instrument. May be repeated for credit. (3 hours activity)

281B Brass Instruments (1)
Trumpet and French Horn.

281C Brass Instruments (1)
Trombone, Baritone and Tuba.

281P Percussion Instruments (1)
Snare drum and mallet-played instruments with related work on other standard percussion instruments.

281S String Instruments (1)
Violin and Viola.

281T String Instruments (1)
Cello and String Bass.

281W Woodwind Instruments (1)
Flute, Clarinet and Saxophone.

281X Woodwind Instruments (1)
Oboe and Bassoon.

282A,B Piano Class for Music Majors (2,2)
Keyboard skills for students whose major performance field is not piano. **A**—Prerequisite: Mu 182 or placement by instructor. **B**—Prerequisite: Mu 282A or placement by instructor. Meets minimum piano proficiency requirements for degree. (3 hours activity)

283 Voice Class (1)
Prerequisite: placement by coordinator. Recommended for credential candidates. Not required for voice majors. (2 hours activity)

312 Commercial Harmony (3)
Prerequisite: Music 211. Harmonic practices in commercial music; stage band and jazz writing techniques.

314 Special Projects in Commercial Music (3)
Prerequisite: Music 312 or consent of instructor. Scoring for commercial bands including the stage band. May be repeated for credit. (1 hour lecture, one hour activity)

316 16th-Century Counterpoint (2)
Prerequisite: Mu 211 or consent of instructor. Sixteenth-century counterpoint in two, three and four parts, covering motet, canon, double counterpoint.

318 18th-Century Counterpoint (2)
Prerequisite: Mu 316 or consent of instructor. Eighteenth-century counterpoint in two, three and four parts, covering invention, canon, double and triple counterpoint and fugue.

319A,B,C Form and Analysis (3,2,2)
Prerequisite: Mu 211 or consent of instructor. **A**—Analysis of structural elements of music such as motive phrase and period: binary, tenary, rondo, sonato allegro and larger musical forms in representative musical works. Required of all music majors. **B**—Continuation of A; larger musical works. **C**—Continuation of A and B; literature of the 20th century.

320A,B 20th-Century Techniques (2,2)
Prerequisite: Mu 319A. Compositional practices of the 20th century; emphasis on written examples in the various styles, includes sightsinging, keyboard practice and dictation. **A**—Compositional techniques from 1890 to 1945. **B**—Compositional techniques since 1945, to include the synthesis of sound. (1 hour lecture, 2 hours activity)

323A,B Orchestration (2,2)
Prerequisite: Mu 319A, 320 or consent of instructor. Writing and analysis of orchestral music.

324 Scoring for the Band (2)
Prerequisite: Mu 323A or consent of instructor. Devices, techniques, and skills required to produce complete transcriptions for the contemporary public school wind band.

333 Music and Child Development (3)
Prerequisite: Mu 101 or equivalent or successful completion of proficiency test. The relationship of music to child growth and development for the child from 5 to 12. Teaching-learning strategies. Field work in a neighboring public school.

350 Music in Our Society (3)
Prerequisite: Mu 100 or consent of instructor. Music in its relationship to general culture. A sociological approach; musical criticism and journalism, concert life, audience psychology and the political/religious/business aspects of the American musical scene.

351A History and Literature of Music (3)
Prerequisites: Mu 211 and 251 or consent of instructor. A study of the history and literature of music from early Greek beginnings through the Renaissance area.

351B History and Literature of Music (3)
Prerequisite: Mu 351A. A study of the history and literature of music of the Baroque and Classic eras. Fulfills the course requirement of the university upper division baccalaureate writing requirement for music majors.

351C History and Literature of Music (3)
Prerequisite: Mu 351B. A study of the history and literature of music from the Romantic era to the present.

354 Survey of Public School Choral Music Materials (2)
Prerequisite: Mu 391A. Examination and analysis of choral repertoire suitable for junior and senior high choruses.

361a–w Major Performance Ensemble (1)
Study and performance of standard and contemporary music literature. Public concerts on campus and in the community each semester and participation is required. A concert tour may be included by some groups. (More than 3 hours major production) May be repeated for credit.

361a Symphony Orchestra (1)
Prerequisite: audition or consent of instructor.

361b University Choir (1)
Prerequisite: consent of instructor.

361c University Concert Band (1)
Prerequisite: consent of instructor.

361d Opera Theatre (1)
Roles and representative excerpts from standard and contemporary operas and the musical, dramatic and language techniques of the musical theatre. Performance of operatic excerpts and complete operas. Also open to non-vocal majors.

361e University Singers (1)
Prerequisite: advanced voice students or those accepted by audition.

361f University Wind Ensemble (1)
Prerequisite: advanced wind and percussion students accepted by audition.

361h Symphonic Band (1)
Prerequisite: audition or consent of instructor.

361m Men's Choir (1)
Prerequisite: consent of instructor. Performance of choral litrature.

361w Women's Choir (1)
Prerequisite: consent of instructor. Performance of choral literature.

362A Jazz Band (1)
Open by audition or consent of instructor. Public performances on campus and in the community. May be repeated for credit.

362B Pep Band (1)
Prerequisite: consent of instructor. The Pep Band provides music for Titan football and basketball games, and, occasionally, other related activities. May be repeated for credit.

362C Chamber Singers (1)
Prerequisite: audition. Study and performance of choral literature of the Renaissance and baroque periods. Public performance required. May be repeated for credit. (2 hours activity)

362D Percussion Ensemble (1)
Prerequisite: consent of instructor. Study and performance of music written for the Percussion Ensemble. May be repeated for credit. (2 hours activity)

362E Brass Ensemble (1)
Prerequisite: consent of instructor. Study and performance of music written for large brass choir/ensemble. May be repeated for credit. (2 hours activity)

362G String Ensemble (1)
Prerequisite: auditon or consent of instructor. Study and performance of string orchestra literature covering all periods of musical style. May be repeated for credit.

362H Chamber Orchestra (1)
Prerequisite: consent of instructor. Study and performance of representative chamber orchestra literature. Open to university students and qualified adults in the community. May be repeated for credit.

362L Jazz Laboratory Band (1)
Prerequisite: ability to read music. The commercial as well as artistic aspects of composing, arranging and improvisation. Melodizing harmony, the 32 bar song, composing and recording jingles, and the mechanics of jazz improvisation. May be repeated for credit.

362P Choral Laboratory (1)
Open by audition or with consent of instructor. Performance of choral literature for small vocal ensembles using student conductors. May be repeated for credit.

362X Beginning Opera Techniques (1)
Prerequisite: recommendation of voice faculty. Arias for the beginning opera student, and fundamentals of stage movement. May be repeated for credit.

362Z Advanced Opera Techniques (1)
Prerequisite: consent of instructor. Aria preparation, role study and character analysis. Musical style of contrasting arias; orchestral techniques; language and transliterations of libretti. May be repeated for credit.

363b–x Chamber Music Ensembles (1)
Open to all qualified wind, string or keyboard students. Ensembles will study, read and perform representative chamber literature of all periods. May be repeated for credit. (2 hours activity)

363b Brass
363g Guitar
363k Keyboard
363r Renaissance
363s Strings
363w Woodwind
363x Saxophone

365C Composition Workshop (1)
Weekly workshop presentation by student composers, faculty and guests. May be repeated for credit.

365I Instrumental Workshop (1)
Application of instrumental technique to performance practices through lecture, demonstrations, master classes and ancillary recitals. Recommended for instrumental major each semester. May be repeated for credit.

365K Keyboard Workshop (1)
Weekly workshop performances by students, faculty and guests. Recommended for keyboard major each semester. May be repeated for credit.

365V Vocal Workshop (1)
Application of vocal technique to performance practices through lecture—demonstration, master classes and ancillary recitals. Recommended for vocal major each semester. May be repeated for credit.

372 Harpsichord Class for Music Majors (1)
Prerequisite: 300-jury level in piano or organ or consent of instructor. The harpsichord as an instrument, the application of baroque stylistic characteristics, and training in the rudiments of continuo playing in ensemble with voices and instruments. (2 hours activity)

373 Organ Class for Music Majors (1)
Prerequisite: 300-jury level in piano or consent of instructor. The organ as an instrument, the playing techniques, and repertoire. The differences between piano and organ techniques. (2 hours activity)

381 Survey of Recreational Instruments (1)
Recreational instrument practices for credential candidates. Emphasis on recorder and guitar. (2 hours activity)

385 Keyboard Sight-reading (2)
Prerequisite: 200-jury level in piano or organ or consent of instructor. Sightreading skills and procedures. Development of ability to read solo, ensemble and scores without hesitation at first sight. (4 hours activity)

386 Piano Accompanying (1)
Prerequisite: by audition only. Piano accompaniments for instrumentalists, vocalists and ensembles. Participation in rehearsals, recitals and concerts required. May be repeated for credit. (2 hours activity)

390A,B,C Diction for Singers (1,1,1)
Prerequisite: sophomore standing or consent of instructor. Proper singing diction; may not be considered a substitute for formal language study. Examples from standard vocal literature explained through the use of the International Phonetic Alphabet. **A**—Italian. **B**—German. **C**—French.

391A,B Choral Conducting (2,2)
Prerequisite: one semester of voice class or consent of instructor. **A**—Principles, techniques and methods of conducting choral groups. Required of all music education majors. (4 hours activity) **B**—Continuation of 391A including laboratory work with class and vocal ensembles, using standard choral repertoire. (4 hours activity)

392A,B Instrumental Conducting (2,2)
Prerequisite: two courses from 281B,P,S,W or consent of instructor. **A**—Principles, techniques and methods of conducting orchestral and band groups. Required of all music education majors. (4 hours activity) **B**—Continuation of 392A, including laboratory experience in conducting instrumental groups, using standard instrumental literature. (4 hours activity)

393 Music Instrument Care and Repair (2)
The care and repair of band and orchestra instruments. Experience in the preventative maintenance of music instruments, and basic repairs which require a minimal amount of equipment, skill and time.

396 Internship: Professional Experience (1–3)
Fieldwork in music under supervision of resident faculty and professionals in the field. Requires minimum six hours fieldwork per week for each unit credit. May be repeated for credit to a maximum of six units. Open to all music students by consent of instructor.

398 Recital (1)
Prerequisites: 300 level in the principal performance area and consent of instructor. Corequisite: Enrollment in Mu 365C,I,K or V. Preparation and presentation of representative works in the principal performance area. In the semester of recital presentation, Mu 398 will substitute for one unit of Mu 371.

400 Concert Music (1)
Open to all students. Weekly performances by university students, faculty and performing organizations, with lectures and discussions relative to the performing arts. Attendance required at additional concerts during the semester. Open to all students. May be repeated for credit.

411 Theory Seminar (3)
Prerequisites: Completion of all lower division theory requirements, and at least senior standing or equivalent. A survey of the theoretical basis of music from 1500 to the present through analysis, readings and discussion.

422A,B Composition (2,2)
Prerequisites: Mu 316, 319A and 320A or B or consent of instructor. **A**—Ear-training analysis of smaller forms, simple composition of two- and three-part song form styles. **B**—Analysis and writing of more complex musical forms.

424 Practicum: Electronic Music Laboratory (1)
Prerequisites: Music 320B, 471 level in applied music composition and consent of instructor. Individual and group instruction in electronic music composition. May be repeated once for credit. (3 hours laboratory)

433 Music in Early Childhood (3)
Prerequisite: ability to read and perform simple songs and games for young children. Songs, games, creative activities and materials suitable for young children in nursery school and early childhood education (approximately 3–6 years). Teaching-learning strategies. Field work is conducted in a neighboring public school.

450 History of Musical Style (3)
Prerequisites: Mu 351A,B,C, or equivalent, or consent of instructor. An intensive investigation of the principal musical styles in Western music from Ancient Greece to the present, with an analytical/philosophical examination of reasons for stylistic changes.

451 Composer Survey (1)
Prerequisite: Completion of all lower-division theory courses. The life, times and compositions of a selected composer. May be repeated for credit with different content.

452 Symphonic Literature (3)
Prerequisites: Music 320A and 351A,B,C or consent of instructor. Historical survey of the symphony from Baroque antecedents through contemporary examples. (3 hours lecture)

453A,B Choral Literature and Interpretation (2,2)
A—Prerequisites: Mu 391A or equivalent and 351A,B. Choral literature from the Medieval, Renaissance and Baroque eras analyzed in historical perspective. Appropriate performance practices. **B**—Prerequisites: Mu 391A or equivalent and 351C. Continuation of A with representative examples from the Classic, Romantic and Contemporary eras.

454A,B Piano Literature and Interpretation (2,2)
Performance of representative styles and schools of piano literature; solo and ensemble repertoire. **A**—Prerequisites: Mu 351A,B and junior level piano standing or consent of instructor. **B**—Prerequisites: Mu 351C and junior level piano standing or consent of instructor. Concerti, character pieces, fantasies, suites and etudes.

455 Instrumental Chamber Literature and Interpretation (3)
Open to all music majors, or to non-majors by consent of instructor. The class will be grouped into ensembles for demonstration purposes. The stylistic differences required in performing works of all periods.

456 Opera Literature and Interpretation (3)
Prerequisite: Mu 351A,B,C or consent of instructor. All periods and nationalities, including stylistic and historical connotations.

457A Song Literature and Interpretation (2)
Prerequisite: Mu 319A, 390B or consent of instructor. Study and performance of German Lieder with representative examples of periods and styles.

457B Song Literature and Interpretation (2)
Prerequisite: Mu 390C or consent of instructor. Study and performance of French art songs with representative examples of periods and styles.

459 Guitar Literature, Interpretation and Pedagogy (3)
Prerequisite: 300-jury level in guitar or consent of instructor. The literature available to guitarists. Works for lute, vihuela and baroque guitar and the compositions and transcriptions for the modern guitar. Materials and methods essential for the guitar instructor.

460 Interpretation of Early Music (3)
Prerequisite: 300-jury level in principal performance area. The stylistic interpretations of vocal and instrumental literature from the 16th, 17th and 18th centuries. For the senior or graduate student majoring in performance. (2 hours lecture)

465 Observation in Applied Piano (1) (Formerly 267)
Prerequisite: piano major, sophomore standing. Observation of specialists in private music teaching, teaching techniques, materials, development of student and preparation for beginners, adult beginners, intermediate and early advanced students under the specialist in these areas. Requires written reports of activity in these areas. Coenrollment in Mu 467A or 467C required.

466 Pedagogy Internship (1) (Formerly 367)
Prerequisites: Mu 465 and 467A. Coenrollment in Mu 467B required. Supervised internship in private piano teaching.

467A,B,C Piano Pedagogy (2,2,2)
Prerequisite: junior piano standing or consent of instructor. Fundamentals of piano pedagogy for individual and group instruction. **A**—Materials and methods for beginning and elementary students. Coenrollment in Mu 465 recommended. **B**—Materials and methods of intermediate and early advanced students. Physiology and psychology for studio teachers. Coenrollment in Mu 466 recommended. **C**—Prerequisite: 467A or consent of instructor. Observation and practice teaching while learning organizational procedures, teaching techniques and course literature for class piano.

468A,B Vocal Pedagogy (2,2)
Prerequisite: senior standing or consent of instructor. **A**—Fundamentals of vocal pedagogy for studio and public school teaching; physiology and acoustics as they apply to singing. **B**—Application of the fundamentals discussed in A. Seminar discussions and actual studio teaching. The diagnosis and cure of specific vocal problems.

496 Student-to-Student Tutorials (1–3)
Prerequisites: a 3.0 or more grade-point average and/or consent of instructor and simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. Consult "Student-to-Student Tutorials" in this catalog for more complete course description.

497 Senior Project (1)
Independent investigation of an area of special interest in music culminating in a public performance, lecture, lecture-recital or other suitable demonstration.

498 Recital (1)
Prerequisites: 400 level in the principal performance area (400 level in composition for composition majors) and consent of instructor. Corequisite: Coenrollment in Mu 365C,I,K or V. Preparation and presentation of representative works in the principal performance area. In the semester of recital presentation, Mu 498 will substitute for one unit of Mu 471.

499 Independent Study (1–3)
A special topic in music selected in consultation with and supervised by the instructor. May be repeated for credit.

500 Introduction to Graduate Study in Music (3)
Required of all graduate music majors. Basic bibliography, literature, and research techniques and materials useful in graduate music study.

524 Seminar in Music Theory (2)
Theoretical subjects (form/style analysis, history of music theory, etc.) to be chosen by instructor. May be repeated for credit.

551 Seminar in Music of the Medieval Period (3)
Prerequisite: consent of instructor. The music forms, structures and styles from 500 to 1450. Analysis of representative works and the contributions of individual composers and theoretical writers.

552 Seminar in Music of the Renaissance (3)
Prerequisite: consent of instructor. The forms, styles, and development characteristics of music between 1450 and 1600. Analysis of works by representative composers and theoretical writers.

553 Seminar in Music of the Baroque Period (3)
Prerequisite: Mu 351A,B or consent of instructor. Musical forms, styles, and performance practices of the baroque period. Analysis of representative works.

554 Seminar in Music of the Classic Period (3)
Prerequisite: Mu 351A,B or consent of instructor. The history and literature of music from approximately 1750 to 1825. Analysis of representative works.

555 Seminar in Music of the Romantic Period (3)
Prerequisite: consent of instructor. The structure and development of music in the 19th century. Analysis of representative works.

556 Seminar in 20th-Century Music (3)
Prerequisite: Mu 351A,B,C or consent of instructor. Developments in the music of western Europe and the western hemisphere since 1890. Contemporary music and its structure.

557 Seminar in Musicology (3)
Prerequisites: at least two courses from Mu 551–556 and consent of instructor. Detailed investigation and systematic analysis of specific developments in musicology.

558 Collegium Musicum (2)
Prerequisite: consent of instructor. Advanced studies in the performance of rare and old music, which may include notation, transcription, arranging, research, and performance. May be repeated for credit.

559 Composer Studies (2)
The life, times and musical style of a selected composer. A seminar for graduate students in music; lectures, discussion sessions and analytical projects. Open to seniors in music by consent of instructor. May be repeated for credit with different content.

567 Seminar in Piano Pedagogy (3)
Prerequisites: Mu 467A,B,C, or consent of instructor. In-depth study of a topic specifically dealing with a pedagogical aspect of studio teaching through lectures, discussion and demonstrations concerning applied music instruction.

568 Advanced Studies in Group/Class Piano Pedagogy (3)
Prerequisite: 467C or consent of instructor. Graduate level study of the advanced learning theories, musical issues, and pedagogical methods involved in teaching group/class piano through lectures, discussions, and student presentations.

570 Seminar in Piano Literature (2)
Prerequisite: Mu 500 or consent of instructor. Advanced study of piano literature, with performances and analyses by class members and lectures by the instructor. Requirements can be met by performance and/or analysis. May be repeated for credit.

571 Individual Instruction (1–2)
Prerequisite: jury recommendation. Individual instruction with approved instructor. Emphasis on performance techniques and repertoire. Required of all graduate students whose terminal project is the graduate recital. May be repeated for credit.

591 Seminar in Advanced Choral Conducting and Interpretation (2)
Prerequisite: Mu 391B, conducting experience or consent of instructor. Choral conducting techniques. Laboratory work with student groups and concert conducting. May be repeated for credit when offered with different course content.

592 Seminar in Advanced Instrumental Conducting and Interpretation (2)
Prerequisites: Mu 392B, keyboard facility for score reading and consent of instructor. Conducting techniques. Interpretive problems of each period covered in lectures. May be repeated for credit.

597 Project (3)
Systematic study and report of a significant undertaking in the area of musical composition, musical performance, or other related creative activity. A written critical evaluation of the work or activity will be required.

598 Thesis (3)
Individual investigations of specific problems in the area of concentration by candidates for the M.A. degree.

599 Independent Graduate Research (1–3)
Prerequisites: graduate standing in music and consent of instructor. Research and study projects in areas of specialization beyond regularly offered coursework. Oral and written reports required.

MUSIC EDUCATION COURSES

299 Clinical Practice in Instrumental/Choral Techniques (1)
Clinical practice and field applications of instrumental/choral techniques classes, as in public and private schools. Coenrollment in Mu 391B or 392B recommended. (3 hours weekly to be arranged in nearby school)

342 Practicum in School Materials and Techniques (3)
Corequisite: Mu Ed 399I or 399V. For the music education major. Experience in the use of musical materials, conducting, organization and management. Observation and application of rehearsal and classroom techniques.

399I Clinical Practice in Instrumental Conducting (1)
Prerequisite: Mu 299. Clinical practice and field applications of concepts, materials and procedures as applied to field situations, as in public and private schools. Co-enrollment in Mu Ed 342.

399V Clinical Practice in Choral Conducting (1)
Prerequisite: Mu 299. Clinical practice and field applications of concepts, materials and procedures as applied to field situations, as in public and private schools. Co-enrollment in Mu Ed 342.

435 Music in the Modern Classroom (3)
Prerequisite: Mu 333 or consent of instructor. A survey of 20th-century materials and techniques of recordings for creative movement to music, and of choral materials and techniques appropriate for the elementary school choir. Adaptation of materials for use in classroom music.

436 Orff Techniques for Children (3)
Methods and techniques influenced by Carl Orff in teaching music for children. Rhythmic speech, song and movement. (2 hours lecture, 1 hour activity)

441 Teaching General Music in Secondary Schools (3)
Prerequisite: admission to teacher education, senior standing or consent of instructor. Objectives, methods and materials for teaching general music or allied art-humanities classes in secondary schools, including their relationship to specialized instrumental and choral programs. Practical problems and field work are included.

442 Principles and Methods of Teaching Music in the Public Schools (3)
Prerequisite: admission to teacher education. History, principles of public education, grades K–12, with emphasis on music. Philosophy, methods, materials and procedures for organizing and teaching music in elementary and secondary schools. Must be taken concurrently with Ed-TE 440F and 440S.

444 Administration, Materials for the Marching Band (2)
Prerequisite: consent of instructor. Techniques, materials, administration for marching band. Charting for the football field; parade activities. The needs of school bands.

449A Student Teaching in Music in the Secondary School (10)
For candidates who have declared for the Ryan Act credential. See description and prerequisite under Division of Teacher Education.

449B Student Teaching Seminar (2)
Must be taken concurrently with Mu Ed 449A. For candidates who have declared for the Ryan Act credential. See description and prerequisites under Division of Teacher Education.

530 Practicum of Research in Music Education (2)
Prerequisites: graduate standing in music and completion of Mu 500. Research techniques and procedures in music education. Research paper required.

531 Foundations of Music Education (2)
Prerequisite: Mu 500. Philosophical and historical bases which have influenced music education. Philosophic frames of leading educators. Contemporary trends. Prerequisite for all graduate music education courses.

532 Seminar in Music Education (2)
The trends and application of educational theory in relation to the teaching of music in the public schools.

545 Leadership in Music Education (2)
Open to music education majors with teaching experience. Philosophy, principles and practices of leadership in music in the public elementary and secondary schools. Modern principles of leadership, types of services, organization, management and evaluation of programs of instruction. Required for all graduate students specializing in supervisory-leadership roles in music education.

DEPARTMENT OF THEATRE

FACULTY
Alvin Keller
Department Chair

Barbara Arms, Joseph Arnold, Bob Christianson, Don Finn, Chris Frandsen, Susan Hallman, Donald Henry, Dean Hess, Larry Jasper, Robin Johnson, Gretchen Kanne, Gladys Kares, Araminta Little, Alex MacKenzie, Sallie Mitchell, S. Todd Muffatti, Jerry Pickering, Lee Scanlon, Deborah Slate, Ron Wood, James Young, Allen Zeltzer

The Department of Theatre program includes the several fields of playwriting, oral interpretation, acting-directing, technical theatre, theatre history and theory, television, and dance. Specifically, the course work is arranged to provide opportunities for students (1) to develop an appreciation for theatre arts; (2) to become aware, as audience or participants, of the shaping force of theatre arts in society; (3) to improve the understandings and skills necessary for work in the theatrical arts as a profession; (4) to prepare for teaching theatre; and (5) to pursue graduate studies.

To qualify for a baccalaureate degree with a major in theatre, students must have a C or better in all Theatre courses required for the degree. In addition to course requirement, all theatre majors will enroll for two units of Theatre 478B each semester.

Students who wish to transfer, for credit in the major, courses equivalent to Theatre 200, 276A,B, 277 and 285 must pass a transfer equivalency examination in the specific courses. These examinations are administered at the beginning of each semester. Contact the Theatre Department office for the times at which the examinations will be administered. Theatre 200, or its equivalent, is a prerequisite for all upper-division theatre courses taken for the major with the exception of Theatre 478A,B. Transfer students may take Theatre 200 concurrently with their first semester of upper-division courses.

In addition to its on-campus productions, the Department of Theatre offers additional experience for actors, directors, dancers, choreographers, designers, and technicians in its adjunct professional theatre companies: *Cabaret Repertory Theatre* and *Dance Repertory Theatre*. Both are made up of carefully selected Cal State Fullerton graduates and advanced theatre students, chosen on the basis of demonstrated excellence in their work at the university. *Cabaret* performs 20 weeks throughout the year off campus, and *Dance Repertory* performs on tour.

Prior to entering their junior year, or upon transferring to Cal State Fullerton, all students electing Plan II concentration in acting or dance will be evaluated and advised as to potential for advancement in the emphasis. Students in acting or dance who are admitted to the following intermediate and advanced level technique classes are required to audition and be available for casting in all Department of Theatre major productions appropriate to their emphasis: Theatre 212, 222, 312,

363A,B, 422 and 463A,B. A minimum of one Department of Theatre major production performance appropriate to the emphasis is required at both the junior level and the senior level of the acting and dance programs.

BACHELOR OF ARTS IN THEATRE ARTS

Course programs have been planned to meet the individual needs and interests of students working for the Bachelor of Arts in Theatre Arts.

Plan I is for those who wish to study theatre as a cultural contribution or who wish to pursue graduate degrees in theatre with emphasis in theatre history and theory. It is strongly recommended that students electing this plan support the major with approved electives from art, music, foreign languages, literature, philosophy or speech.

Plan II is designed to develop competency for pursuing the theatrical arts as a profession, or for pursuing graduate degrees in theatre with an emphasis in an area of concentration other than history of the theatre. Areas of concentration are: playwriting; acting; directing; oral interpretation; television; technical theatre; and dance.

Plan III meets the requirements of the teaching credential with specialization in secondary teaching.

In addition to the requirements listed below for the major, students must meet the other university requirements for a bachelor of arts degree. Students following Plan III must meet any specific requirements for the desired teaching credential. See description of secondary school teaching credential program under Division of Teacher Education. In addition, Plan III students should see the department's secondary education adviser regarding course sequence required for the single subject waiver. Those students who plan to work on the M.A. degree as well as the credential should see the chair of the Department of Theatre.

PLAN I: THEATRE HISTORY AND THEORY EMPHASIS *Units*

Lower Division: Theatre 110, Introduction to Oral Interpretation (3), Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3) or Theatre 285, Theatrical Makeup (3) 18

Upper Division: Theatre 310, Oral Interpretation of Shakespeare (3); Theatre 370A, Fundamentals of Directing (3); Theatre 475A,B,C,D,E, World Theatre (15); Theatre 477A,B, Senior Seminar in Critical Techniques (6); electives (3 units).. 30

PLAN II: PROFESSIONAL EMPHASIS IN AN AREA OF CONCENTRATION *Units*

Playwriting—

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3) or Theatre 285, Theatrical Makeup (3); Theatre 284, Introduction to Television Production (3) 21

Upper Division: Theatre 364, Seminar in Playwriting (3,3), or Theatre 364 (3) and Theatre 365, Television/Film Writing (3); Theatre 370A,B, Fundamentals of Directing (6); Theatre 384, Television Production and Direction (3); Theatre 470A, Advanced Directing (3); Theatre 475A,B,C,D, World Theatre (12); Theatre 477A,B, Senior Seminar in Critical Techniques (6) 36

Oral Interpretation—

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 200, Art of the Theatre (3); Theatre 241, Voice Production for the Performer (2,2); Theatre 251, Body Movement for the Actor (3); Theatre 263, Acting (3); Theatre 276A, Beginning Stagecraft (3); Theatre 277, Costume Fundamentals (3) or Theatre 285, Theatrical Makeup (3) 22

Upper Division: Theatre 310, Oral Interpretation of Shakespeare (3); Theatre 370A, Fundamentals of Directing (3); Theatre 410A,B,C, Oral Interpretation of Prose, Poetry and Drama (9); Theatre 411, Oral Interpretation of Children's Literature (3); Theatre 414, Readers Theatre (3); Theatre 475A,B,C,D, World Theatre (12) 33

Acting—

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 200, Art of the Theatre (3); Theatre 241, Voice Production for the Performer (2,2); Theatre 251, Body Movement for the Actor (3); Theatre 263, Acting (3); Theatre 276A, Beginning Stagecraft (3); Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3) 25

Upper Division: Theatre 310, Oral Interpretation of Shakespeare (3); Theatre 363AB,

Intermediate Acting (6); Theatre 370A, Fundamentals of Directing (3); Theatre 463A,B, Advanced Acting (6); Theatre 475A,B,C,D, World Theatre (12); Theatre 482, Acting for Film and Television (3) 33

Television—

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 184, Introduction to Radio and Television (3); Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 284, Introduction to Television Production (3) 21

Upper Division: Theatre 365, Television/Film Writing (3); Theatre 370A, Fundamentals of Directing (3); Theatre 384, Television Production and Direction (3); Theatre 386, Beginning Lighting (3); Theatre 475A,B,C,D or E, World Theatre (6); Theatre 484, Television Dramatic Techniques (3); Theatre 490, Television/Film Aesthetics and Criticism (3) 24

Electives: 9 units selected from Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3); Theatre 288, Design for the Theatre (3); Theatre 387, Audio Techniques (3); Theatre 486, Advanced Lighting (3) 9

Directing—

Lower Division: Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3); Theatre 284, Introduction to TV Production (3); Theatre 285, Theatrical Makeup (3); Theatre 288, Design for the Theatre (3) 24

Upper Division: Theatre 350, Organization for Production (2); Theatre 370A,B, Fundamentals of Directing (6); Theatre 384, Television Production and Direction (3); Theatre 386, Beginning Lighting (3); Theatre 450, Theatre Management (3); Theatre 470A,B, Advanced Directing (6); Theatre 475A,B,C,D, World Theatre (12) 34

All theatre majors with an area emphasis in directing must assistant stage manage a mainstage production either prior to or concurrently with Theatre 470A, Advanced Directing, and must stage manage a mainstage production prior to graduation.

Technical Production/Design—

Lower Division: Theatre 200, Art of the Theatre (3); Theatre 276A,B, Beginning Stagecraft (6); Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3); Theatre 288, Design for the Theatre (3) 18

Upper Division: Theatre 350, Organization for Production (2); Theatre 370A, Fundamentals of Directing (3); Theatre 377, Stage Costuming (3); Theatre 379, Rendering for the Theatre (3); Theatre 386, Beginning Lighting (3); Theatre 388, Historical Styles for Scene Design (3); Theatre 475A,B,C,D, World Theatre (12); Theatre 486, Advanced Lighting (3) Theatre 488, Advanced Design and Technology (3) 35

Electives: 6 units selected from Theatre 284, Introduction to Television Production (3); Theatre 385, Advanced Theatre Makeup (3); Theatre 387, Audio Techniques (3) 6

Dance—

Lower Division: Theatre 112, Beginning Classical Ballet (2); Theatre 122A,B, Beginning Modern Dance (4); Theatre 126, Dance Improvisation (2); Theatre 200, Art of the Theatre (3); Theatre 212, Intermediate Classical Ballet (2); Theatre 222, Intermediate Modern Dance (3); Theatre 226, Rhythmic Analysis (3); Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3) 25

Upper Division: Theatre 323A,B, Dance Composition (6); Theatre 372, Dance Kinesiology (3); Theatre 374, Dance in Cultural Perspective (3); Theatre 386, Beginning Lighting (3); Theatre 422, Advanced Modern Dance (3); Theatre 423, Advanced Dance Composition (3); Theatre 424, Fundamentals of Dance Instruction (3); Theatre 474, Forces and Figures in 20th Century Dance (3); *6 units selected from* Theatre 387, Audio Techniques (3); Theatre 414, Readers Theatre (3), Theatre 450, Theatre Management (3); Theatre 486, Advanced Lighting (3) 33

Musical Theatre—

Lower Division: Theatre 200, Art of the Theatre (3); Theatre 212, Intermediate Classical Ballet (2); Theatre 232, Intermediate Jazz Dance (2); Theatre 241, Voice Production (2); Theatre 263, Acting (3); Theatre 285, Theatrical Makeup (3); Music 111A,B, Diatonic Harmony (6); Music 183,* Voice Class (1); Music 184A,*, Piano Class (1) 23

* Or equivalent.

Upper Division: Theatre 332, Advanced Jazz Dance (3); Theatre 336A,B, Dance for Musical Theatre (6); Theatre 363A, Intermediate Acting (3); Theatre 436A,B, Musical Theatre Workshop (6); Theatre 475, World Theatre (Select from A,B,C or D) (9); Theatre 475E, World Theatre (3); Music 361d, Opera Theatre (1); Music 365V, Vocal Workshop (1 + 1) 33

PLAN III: TEACHING EMPHASIS (Single Subject) *Units*

Lower Division: Theatre 110, Introduction to Oral Interpretation (3); Theatre 200, Art of the Theatre (3); Theatre 263, Acting (3); Theatre 276A, Beginning Stagecraft (3); Theatre 277, Costume Fundamentals (3); Theatre 285, Theatrical Makeup (3); Theatre 288, Design for the Theatre (3) 21

Upper Division: Theatre 350, Organization for Production (2); Theatre 370A,B, Fundamentals of Directing (6); Theatre 386, Beginning Lighting (3); Theatre 402B, Dramatic Activities for Children (3); Theatre 403A, Theatre for Children (3); Theatre 414, Readers Theatre (3); Theatre 450, Theatre Management (3); Theatre 470A, Advanced Directing (3); Theatre 475A,D,E, World Theatre (9) 35

Theatre Education majors are required to complete the following courses before the preliminary single-subject teaching credential will be awarded: English 101, 300, 301 and 303.

MASTER OF ARTS IN THEATRE ARTS

MASTER OF FINE ARTS IN THEATRE ARTS

See "Graduate Programs."

THEATRE COURSES

100 Introduction to the Theatre (3)
For the general student leading to an appreciation and understanding of the theatre as an entertainment medium and as an art form. *Recommended for non-majors.*

101 Introduction to Dance (3)
Historical and contemporary dance forms. Experiences in various dance forms such as ballet, modern, jazz, folk, Afro, mime. *Recommended for non-majors.*

102 Theatre in Performance (3)
The theatregoing experience. Attendance at stage plays, films and other theatrical productions both on and off campus; discussions with directors, actors and designers. *Recommended for non-majors.*

110 Introduction to Oral Interpretation (3)
The analysis and performance of literature by the interpreter.

112 Beginning Classical Ballet (2)
The fundamental structure and technique of classical ballet. (4 hours activity)

122A,B Beginning Modern Dance (2,2)
Prerequisites: A is prerequisite to B. **A**—Exploration and manipulation of the instrument and materials of dance; development of aesthetic judgment. (4 hours activity) **B**—Expansion of A, via more complex technique and composition studies; development of performance quality. (4 hours activity)

126 Dance Improvisation (2)
A—Improvisation in movement to overcome inhibitions, to move freely and naturally and to improvise imaginatively. **B**—Improvisation in expressing imagery and experience in movement, developing choreographic concepts and enhancing performance. (4 hours activity)

132 Beginning Jazz Dance (2)
Modern jazz dance techniques and basic jazz choreography. (4 hours activity)

142 Beginning Tap Dance (2)
Structure and technique of tap dance and tap choreography. (4 hours activity)

163 Beginning Acting (3)
The form and content of acting: improvisation, action, motivation, and behavior. *Recommended for non-majors.* (6 hours activity)

175 History of Western Theatre (3)
A survey of theatre and Western civilization from the classical Greeks to the moderns. *Recommended for non-majors.*

180 Great Moments in Radio and TV (3)
Presentation and analysis of radio and television programs from 1926 to the present, including guest artists from the radio and television industry.

184 Introduction to Radio and Television (3)
The broadcasting industry and its impact and influence on our society. Broadcasting practices, audiences, production and programming.

200 Art of the Theatre (3)
Theatre as an art form, involving the interrelated processes of playwriting, directing, acting, design and theatre management. Study of current plays, films and television with emphasis on dramatic analysis and cultural significance. *Required of all theatre majors.*

206A,B Mime and Pantomime (3,3)
Prerequisite: Theatre 206A is prerequisite for 206B. Individual development of creative skill in mime and pantomime. (6 hours activity)

212 Intermediate Classical Ballet (2)
Prerequisites: Theatre 112 and audition. Intermediate level technique of classical ballet. (4 hours activity)

222 Intermediate Modern Dance (3)
Prerequisites: Theatre 122 and audition. Intermediate modern dance and movement vocabulary in terms of composition and communication. May be repeated for credit. (6 hours activity)

226 Rhythmic Analysis (3)
Musical form and structure; musically notating dance rhythms and percussion accompaniment.

232 Intermediate Jazz Dance (2)
Prerequisites: Theatre 132 and consent of instructor. Intermediate level skills in jazz technique and choreography. (4 hours activity)

241 Voice Production for the Performer (2)
Use of voice in the theatre. Correction of speech faults and regional accents. Study of basic interpretive material. May be repeated for credit. (4 hours activity)

242 Intermediate Tap Dance (2)
Prerequisite: Theatre 142 or consent of instructor. Intermediate skills in tap technique and choreography. (4 hours activity)

251 Body Movement for the Actor (3)
The body as an expressive instrument; acquiring of strength, flexibility, relaxation, control. The relationship of the body to the creative project. May be repeated for credit. (6 hours activity)

263 Acting (3)
Improvisations, exercises, and techniques of acting for the stage. Motivation and behavior in characterization. (6 hours activity)

276A,B Beginning Stagecraft (3,3)
Prerequisite: 276A is prerequisite to B. Planning and construction of stage and television scenery. Use of tools, stage equipment; reading of technical drawings. Work in the scene shop for department productions. (6 hours activity)

277 Costume Fundamentals (3)
Costuming theatrical and television productions. Construction techniques, organization and duties of the costume crew. (6 hours activity)

284 Introduction to Television Production (3)
The fundamentals of production for television. (6 hours activity)

285 Theatrical Makeup (3)
Makeup for stage and television. Individual skill in character analysis, application in pigment, plastic, hair makeup, and selection and use of makeup equipment. (6 hours activity)

288 Design for the Theatre (3)
Scene design, including script analysis, formation of visual concepts, floor plan development and model building for stage and television. (6 hours activity)

310 Oral Interpretation of Shakespeare (3)
Development of techniques for oral interpretation of Shakespeare with special emphasis on the problems of verse.

312 Advanced Classical Ballet (3)
Prerequisites: Theatre 212, and audition. Stylization and performance of classical ballet. (6 hours activity)

322 Partnering Techniques (3)
Prerequisites: intermediate level in dance technique and consent of the instructor. The application of professional theories and principles of interrelationships in modern dance and ballet, including concepts of balance, counterweight and lifting. (6 hours activity)

323A,B Dance Composition (3,3)
A—Prerequisites: Theatre 122, 126A, or equivalents. Study of basic elements and forms of dance composition. **B**—Prerequisite: Theatre 323A or consent of instructor. Problem solving studies in space, time, and energy, using choreographic devices in solo and group situations. Final project required. (6 hours activity)

332 Advanced Jazz Dance (3)
Prerequisites: Theatre 232 and consent of instructor. Advanced jazz techniques and choreography through grade three of professional jazz dance. The relation of jazz to other forms of dance. (6 hours activity)

336A,B Dance for Musical Theatre (3,3)
Prerequisites: Theatre 112, 132, and audition, or consent of instructor. 336A is prerequisite to 336B. Dance utilized in musical theatre. **A**—Ensemble and individual approaches to the style. **B**—Choreography for musical theatre. (6 hours activity)

343 Dialects for Actors (3)
Prerequisite: Theatre 241 or consent of instructor. Dialects and accents for theatrical performance. Source materials, analysis, and application to scripted material. (6 hours activity)

350 Organization for Production (2)
Prerequisite: Theatre 370A. Backstage management, including interrelationships of production personnel for stage and television.

363A,B Intermediate Acting and Characterization (3,3)
Prerequisites: Theatre 241, 251, 263 and audition. Characterization; roles, special problems, and application of acting techniques through exercises and two-character scenes from the contemporary theatre. (6 hours activity)

364 Seminar in Playwriting (3)
Prerequisites: evidence of interest in creative writing and consent of instructor. Study of superior models, development of style, and group criticism and evaluation of independent work, as it relates to playwriting. May be repeated for credit.

365 Television/Film Writing (3)
The writing of scripts and other forms of continuity for television/film. May be repeated for credit.

370A,B Fundamentals of Directing (3,3)
Prerequisites: Theatre 263, or consent of instructor. 370A is prerequisite to B. Prerehearsal problems and procedures, structural analysis of plays, composition, picturization, pantomimic dramatization, movement and rhythm on stage and in television. Practice in directing scenes. (6 hours activity)

372 Dance Kinesiology (3)
Structural aspects of the human body and factors that affect movement in dance.

374 Dance in Cultural Perspective (3)
History of dance from primitive times to the 20th century. Dance in Europe, the Orient, Asia, America in its general relation to culture.

377 Stage Costuming (3)
Fashions and textiles of major historical periods, methods of research; interpretation and communication of historical dress for theatrical statement.

379 Rendering for the Theatre (3)
Scenic and costume sketching and rendering for communication between production director and designers. Full scale costume and scenic painting required. Theoretical and actual production idea presentation and execution. (6 hours activity)

381 Radio and Television Announcing (3)
Prerequisite: Theatre 110. Control room operation, including practice in microphone and camera techniques. (6 hours activity).

384 Television Production and Direction (3)
Prerequisites: Theatre 284. Theory and practice in the production of television programs and announcements: the planning, organizing, directing, rehearsing, performing, recording and editing of television programs and announcements. (6 hours activity)

385 Advanced Theatre Makeup (3)
Prerequisite: Theatre 285. Problems in makeup including special techniques and materials: prosthetics, hairpieces, and masks for stage and television productions. (6 hours activity)

386 Beginning Lighting (3)
Theories of lighting for stage and television productions. (6 hours activity)

387 Audio Techniques (3)
Practice necessary to integrate live and recorded sound into performing arts productions. Recording, reproduction and studio techniques. (6 hours activity)

388 Historical Styles for Scene Design (3)
Visual survey through lecture and slides of architecture, interior design and furniture from ancient to modern times. Provides necessary basis for advanced design course.

400 Theatre Internship (3)
Consent of appropriate faculty supervisor. Supervised work experience in all areas of theatre to expand the dimensions of the classroom by integrating the formal academic training with direct application. Periodic seminar meetings to discuss work.

402A,B Dramatic Activities for Children (3,3)
Prerequisite: Consent of instructor. Creative dramatics as a tool for building and developing creative and socialized processes in children. **A**—Sense memory, movement/mime, dialogue, characterization, dramatization. **B**—Teaching techniques including concentration, imagination, dramatization, and improvisation for older children. (6 hours activity)

403A,B Theatre for Children (3,3)
Prerequisite: 403A prerequisite for 403B or consent of instructor. Theatrical production for an audience of children. **A**—Philosophy, theory and practice; **B**—Application of production principles. (6 hours activity)

410A Oral Interpretation of Prose Literature (3)
Criticism and performance in the oral interpretation of prose literature.

410B Oral Interpretation of Poetry (3)
Criticism and performance in the oral interpretation of poetry.

410C Oral Interpretation of Drama (3)
Criticism and performance in the oral interpretation of drama.

411 Oral Interpretation of Children's Literature (3) (Formerly 203)
Oral presentation of children's literature in classroom, recreation, and home situations including individual and group performance of fiction, non-fiction, fantasy, and poetry.

412 Classical Pointe (3)
Prerequisites: Theatre 312 and consent of instructor. Techniques for performance of classical pointe. (6 hours activity)

414 Readers Theatre (3)
The interpretation of literature in the medium of readers theatre. May be repeated for credit.

422 Advanced Modern Dance (3)
Prerequisites: Theatre 222 and audition. Advanced level skills in modern dance. Emphasis on individual techniques. May be repeated for credit. (6 hours activity)

423 Advanced Dance Composition (3)
Prerequisite: Theatre 323A, B or equivalent. Elements and forms in dance composition. The choreographing of dances of concert quality. (6 hours activity)

424 Fundamentals of Dance Instruction (3)
Prerequisites: Theatre 112, 122, 132, 162 and consent of instructor. Philosophies, techniques, and methods for developing progressions in dance instruction.

436A,B Musical Theatre Workshop (3, 3)
Prerequisites: Theatre 363A, 336A,B, and audition. Theatre 436A prerequisite to B. Roles and excerpts from musical theatre: the musical, dramatic, language and dance techniques. Scenes and musical numbers in workshop. **A**—Large group and solo work. **B**—Small group and audition material preparation. (6 hours activity)

450 Theatre Management (3)
Organizational principles of front-of-house and box office operation. Participation in School of the Arts public presentations. (3 hours lecture, 6 hours activity)

463A,B Advanced Acting (3,3)
Prerequisites: Theatre 310, Theatre 363A,B and audition. Historical theories and techniques of styles of acting. **A**—Greek through renaissance periods. **B**—The neoclassic periods to contemporary styles. (6 hours activity)

470A,B Advanced Directing (3,3)
Prerequisites: Theatre 288, 350, and 370A,B, or consent of instructor. Readings in theory, analysis of scripts and practice in directing plays for their oral and visual value as theatre. **A**—Each student directs a one-act play. **B**—Each student directs two one-act plays or equivalent. (6 hours activity)

471 Creative Dance for Children (3)
Methods and materials for teaching creative dance/movement to children. Interrelated arts techniques (movement, music, drama, visual art) for teaching in the classroom and the dance class. (6 hours activity)

474 Forces and Figures in 20th-Century Dance (3)
Development of forms (ballet, social, modern) from 1900 to the present; their general relation to culture.

475A,B,C,D,E World Theatre (3,3,3,3,3)
Prerequisite: upper-division standing. The historical and dramatic evolution of world theatre. **A**—Ancient Greece and Rome, Middle Ages; Italian renaissance; **B**—England from 1558–1790; 16th- and 17th-century Spain and France; **C**—18th- and 19th-century Europe and Russia; 19th-century England; **D**—18th- and 19th-century America; the Orient; the modern world; **E**—Historical background and contemporary view of the musical theatre.

477A,B Senior Seminar in Critical Techniques (3,3)
Theatre 477A or consent of instructor prerequisite to B. **A**—Major critical theories in theatre. **B**—Application of critical theories to local dramatic productions. Theatre 477B fulfills the course requirement of the university upper-division baccalaureate writing requirement for theatre arts majors.

478A,B Production and Performance (2,2)
A—Acting in stage or television performances. **B**—Technical crew work on stage or television performances. One section of 478B per semester required of all theatre majors as well as non-majors cast in theatre department productions. (More than 6 hours activity)

482 Acting for Film and Television (3)
Prerequisites: Theatre 363A,B. The adaptation of stage techniques for the camera; audition, rehearsal, and final performance, utilizing videotape and studio equipment. (6 hours activity)

483 Advanced Acting Workshop (3)
Prerequisites: Theatre 463A,B and audition. Extensive scene study, based on particular needs and problem areas of the advanced acting student. Rotating study with three instructors in acting, culminating in joint monthly workshop sessions and final semester workshop presentation. (6 hours activity)

484 Television Dramatic Techniques (3)
Prerequisites: Theatre 384 and consent of instructor. Techniques of production for the director, actor and designer in televised drama. (6 hours activity)

486 Advanced Lighting (3)
Prerequisites: Theatre 386 or consent of instructor. Design and technology of lighting for the stage and television. (6 hours activity)

488 Advanced Design and Technology (3)
Prerequisites: Theatre 276A,B, 277, 288 and consent of instructor. Advanced design, coordination of scenery and/or costume design projects for various types of theatres and television.

490 Television/Film Aesthetics and Criticism (3)
Prerequisites: Theatre 290A,B, 384 or consent of instructor. The nature of film and television; aesthetic and theoretical and critical bases for film and television evaluation and understanding.

493 Dance Repertory and Performance (3)
Prerequisites: Theatre 212 and 322. Learning and rehearsing choreography of established and/or new dance works with performance intent. May be repeated for credit. (6 hours activity)

494 Cable Television Production Workshop (3)
Prerequisites: six units of television production and consent of instructor. Practical experience in the creation of full-length television dramatic productions for cable broadcasting. (6 hours activity)

497 Production and Performance Projects in Theatre (1–3)
Prerequisites: upper division standing and consent of instructor; *application form with appropriate signatures must be on file in department office prior to registration.* Projects which culminate in production or performance. May be repeated once for credit.

499 Independent Study (1–3)
Prerequisites: upper division standing and consent of instructor; *application form with appropriate signatures must be on file in department office prior to registration.* Undergraduate research projects. May be repeated for credit.

500 Introduction to Graduate Study in Theatre (3)
Methodological problems in graduate research. Location of source materials, including library and original data; interpretation of research and practice in scholarly writing. *Must be taken the first semester after admission to graduate study.*

501 Graduate Seminar: Advanced Theatre Theory (3)
Prerequisite: Theatre 500. Directed research; the relationship between historical backgrounds and developments in the theatre and the student's area of concentration.

503 Graduate Seminar: Theatre for Children (3)
Prerequisite: Theatre 403A or consent of instructor. Philosophies, theories, techniques and trends of the art of theatre for children. Problems related to the use of materials in educational, community and professional children's theatres.

510 Graduate Seminar: Oral Interpretation (3)
Historical and philosophical development of oral interpretation and its relationship to contemporary theory and practice.

523 Graduate Projects in Choreography (3)
Prerequisite: Theatre 423 or consent of instructor. Experiments in choreography using improvisation and innovative composition techniques. Environmental and sensorial experiences and studies in creativity and perception.

550 Production Planning in Theatre Arts (3)
Production problems in theatre arts. Planning the production within the limitations of budgets and physical facilities.

566 Graduate Seminar: Stagecraft (3)
Prerequisite: consent of instructor. Advanced theories in the preparation and installation of scenery for theatrical production; engineering drawings, exploration of materials, and research into new methods of theatre technology. May be repeated for credit *up to six units.*

570 Styles of Directing (3)
Prerequisites: Theatre 470A,B and 475A,B,C,D, or consent of instructor. Research in theories of directing styles and practice in directing period plays. Each student will direct scenes for workshop performance in Greek tragedy and comedy, Roman comedy, Elizabethan and Jacobean tragedy and comedy, Restoration and 18th-century comedy, French neo-classical comedy, melodrama, or drama of language/idea.

573 Seminar in Dramatic Literature (3)
Directed research and criticism in the examination of contributions of major dramatists or dramatic genres. Emphasis on dramatic analysis. Topic will vary from semester to semester. May be repeated for credit.

575 Seminar in Theatre History (3)
Directed research and criticism in the examination of a significant historical period or movement in theatre history. Topic will vary from semester to semester. May be repeated for credit.

577 Graduate Seminar: Costuming (3)
Prerequisite: consent of instructor. Costume production problems and their solutions. Examination of specific designers, past and present. Research in practical methods of interpreting the designer's sketch. May be repeated for credit *up to six units.*

578 Graduate Seminar: Scene Design (3)
Prerequisite: consent of instructor. Scenic design projects involving in-depth production style and scheme development. May be repeated for credit *up to six units.*

580 Seminar in Play Directing in Secondary Schools (3)
Prerequisites: Theatre 370A,B, 470A,B or consent of instructor. An exploration of the problems unique to staging dramatic productions on the secondary level. Includes such topics as time restrictions, appropriate scripts, disciplinary problems, faculty and administrative support.

583 Graduate Seminar: Acting (3)
Prerequisites: Theatre 463A,B. Investigation and delineation of current acting methods as techniques for solving problems presented by popular dramatic literature. Development of a personal acting philosophy and methodology. May be repeated once for credit.

586 Graduate Seminar: Lighting Design (3)
Prerequisite: consent of instructor. Advanced theoretical lighting design projects. Production problems and their solutions. Examination of specific designers, past and present. May be repeated for credit *up to six units.*

588 Graduate Projects in Design and Technical Theatre (6)
Theoretical projects and designs for productions prior to final projects. Faculty and student critiques. Tailored to individual student needs. *Enrollment limited to M.F.A. students.*

597 Project (1–3)
Prerequisites: consent of instructor, student's graduate committee and department executive committee. Development and presentation of a creative project beyond regularly offered coursework. May be repeated for credit *up to six units. Student must complete course application form by the end of the seventh week of the semester preceding that in which the work is to be done.*

598 Thesis (3)
Prerequisites: consent of student's graduate committee; *application form with appropriate signatures must be on file in department office prior to registration.* Development and presentation of a thesis in the student's area of concentration.

599 Independent Graduate Research (1–3)
Prerequisites: consent of student's graduate committee and instructor; *application form with appropriate signatures must be on file in department office prior to registration.* Research in theatre. May be repeated for credit.

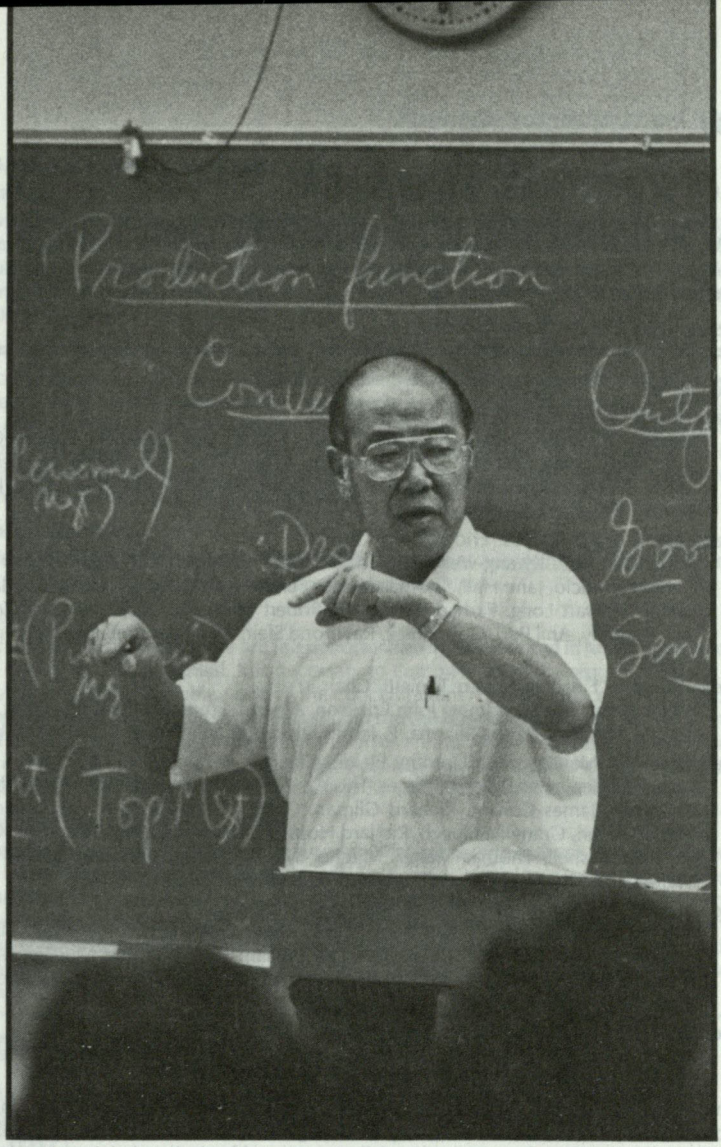
THEATRE EDUCATION COURSES

442 Teaching Theatre in the Secondary School (3)
Prerequisite: admission to teacher education. Objectives, methods and materials for teaching in the secondary school.

449A Student Teaching in Theatre in the Secondary School (10)
See description under Division of Teacher Education.

449B Student Teaching Seminar (2)
See description under Division of Teacher Education.

BUSINESS ADMINISTRATION AND ECONOMICS



BUSINESS ADMINISTRATION AND ECONOMICS

SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: Henry Anderson
Associate Dean: Ken Goldin

FACULTY

Department of Accounting: Trini Melcher, Chair
Steven Anderman, Henry Anderson,* Dale Bandy, Jack Coleman, Eugene Corman, Orapin Duangploy, Mary Fleming, Clyde Hardman, A. Jay Hirsch, Kara Johan, Norbert Maler, Robert Miller, Nona Mooers, Shirish Seth, Randy Swad, William Todd, Anita Tyra, Robert Vanasse, Dorsey Wiseman, Monsie Wolcott, John Woo

Department of Economics: Eric Solberg, Chair
Robert Ayanian, Kwang-wen Chu, James Dietz, Peter Formuzis, Ken Goldin,* Levern Graves, Dante Gumucio, Jane Hall, Thomas Hazlett, Lionel Kalish, Sidney Klein, John Lafky, Maryanna Lanier, Stewart Long, Farhad Mahloudji, Robert Michaels, Gary Pickersgill, Joyce Pickersgill, Jack Pontney, Anil Puri, Guy Schick, Raymond Sfeir, Adil Talaysum, Johannes van Lierop, David Wong

Department of Finance: Marco Tonietti, Chair
Albert Bueso, Donald Crane, John Erickson, Albert J. Fredman, Peter Mlynaryk, Dennis O'Connor, Paul Sarmas, Radha Sharma, P. James Stickels, Frank Taylor, B. E. Tsagris, Wallace Weaver

Department of Management: Dorothy Heide, Chair
Farouk Abdelwahed, Michael Ames, Thomas Apke, Mei Liang Bickner, Kenneth Bobele, Robert Chapman, James Conant, Richard Gilman, Gamini Gunawardane, Leo Guolo, Ghasem Haj-Manoochehri, Granville Hough, Richard Houston, Thomas Johnson, Geoffrey King, Brian Kleiner, Elliot Kushell, Thomas Maher, Mitchell Marks, Richard McCarty, Leland McCloud, Kent McKee, Tai Oh, Janis Pasquali, Edgar Wiley, Edward Zilbert

Department of Management Science: John Lawrence, Chair
Shu-Jen Chen, Angela Cheng, Wen Chow, Roger Dear, Ben Edmondson, Nicholas Farnum, William Heitzman, Mabel Kung, Ram Lal, William Lau, F. Walter Mueller, Barry Pasternack, Kenneth Poertner, Herbert Rutemiller, Sohan Sihota, Ram Singhania, LaVerne Stanton, David Stoller, Ronald Suich, Vishist Vaid-Raizada

Department of Marketing: Irene Lange, Chair
Robert Barath, William Bell, Grady Bruce, Scott Greene, Paul Hugstad, Robert Jones, Robert Olsen, Frank Roberts, James Taylor, Robert Zimmer

The School of Business Administration and Economics offers the only programs in Orange County accredited by the American Assembly of Collegiate Schools of Business. Accreditation assures a rigorous course of study covering the full spectrum of business administration. It also indicates a well-qualified faculty, high standards for students, and access to an extensive library system.

The school offers a broad exposure to business administration and economics. Behavioral and quantitative sciences are studied within both theoretical and applied contexts. Mathematics is used as an integral tool in the analysis of complex problems and in the interpretation of data. Emphasis is placed on effective communication, both oral and written. Students are made aware of the need for imaginative, innovative solutions to business problems, which encompass human needs and ethical objectives.

The school also offers the opportunity to develop technical expertise in a chosen discipline at a beginning professional level acceptable to prospective employers. Seven concentrations are offered within the business administration major as well as an economics major and a business education credential program.

* University Administrative Officer

UNDERGRADUATE PROGRAMS AND SERVICES

Academic Advising

The Business Advising Center on the seventh floor of Langsdorf Hall serves both business administration and economics majors. (Economics students should *also* consult a faculty adviser in the Economics Department.) *Transfer students should see an adviser immediately regarding transfer credit.* For information on general education, consult the Academic Advisement Center in the Humanities Building.

Accounting Concentration

The accounting concentration covers financial, cost, governmental and tax accounting. Specialized courses are offered in auditing, advanced taxation, managerial accounting and information systems. The accounting concentration prepares students for management level accounting positions in business, government or public accounting, and is an excellent preparation for graduate study in accounting. In general, a master's degree is preferred for a career in accounting. For information on master's programs contact the Accounting Department.

Business Administration Major

The curriculum for a business administration degree includes courses surveying all of the fields of business, as well as a series of courses in one area of concentration.

Business Education

With a teaching credential in business, there are job opportunities in business and in junior and senior high schools. To qualify for the credential, it is necessary to complete *all* of the requirements for a B.A. in Business Administration (including one of the concentrations). Additional courses in office administration may be required. Interested students should see the business education adviser in the Division of Teacher Education. Office administration courses are not offered at the University, but may be taken at nearby colleges. Up to 12 units of such courses may be counted as lower division business electives. The credential program also involves 30 units of teacher education courses.

Economics Concentration Economics Major

Students of economics find employment in national and multinational corporations, financial institutions, unions, all levels of government and agribusiness. Economists participate in strategic pricing, cost analysis, marketing research, statistical forecasting and the evaluation of social programs. The economics concentration leads to a Bachelor of Arts in Business Administration. Alternatively, the Bachelor of Arts in Economics requires fewer business courses, allowing greater opportunity to study economics as a social science. Both degrees provide a good foundation for advanced studies in law, business or economics.

English Proficiency Requirement

Proficiency in English writing is required of all business administration and economics majors for award of the baccalaureate degree. Students are required to pass both Business Administration 301, Business Writing, and the Cal State Fullerton Examination in Writing Proficiency (EWP).

Business Administration 301 must be passed before the student achieves senior standing (90 units).

The Examination in Writing Proficiency must be passed before the student achieves senior standing (90 units) *and is also a prerequisite to Management 340 (required of all business administration majors).* The EWP stresses written English and is given approximately four times each year. For the schedule of test dates, consult the current class schedule. *Register in the Testing Center (fee charged).*

A student may apply for a waiver from the English proficiency requirement if the student (1) has published expository prose, (2) is a candidate for a second bachelor's degree and demonstrates writing ability equivalent to that required by Fullerton, or (3) as a transfer student presents evidence of equivalent proficiency in writing at the upper-division level.

Finance Concentration

There are four areas of emphasis within the finance concentration. Students with a financial management emphasis may qualify for jobs as financial analyst for banks, public utilities and other large companies. With a real estate administration emphasis, employment possibilities include financial analyst for a developer, or real estate broker. The securities and investments emphasis can lead to positions as account executive or securities analyst for a stock broker or bank. And the insurance emphasis offers preparation for insurance sales and estate and pension planning.

Internships and Cooperative Education

Students may earn academic credit, first-hand work experience and financial remuneration as well. Opportunities exist in accounting and auditing; cost-benefit analysis and econometrics; finance and real estate; insurance and banking; management and industrial relations; marketing, sales and advertising; and business data systems. For more information, consult the internship adviser in your department or in the Center for Internships and Cooperative Education.

Management Concentration

There are job opportunities in large businesses, hospitals, labor unions and government agencies. By managing human and material resources, useful goods and services are produced in a satisfactory work environment. Management students learn the ethical, psychological and sociological foundations for human behavior and examine the impact of group dynamics, information organization and interpersonal relationships on the administrative process. The management concentration offers three emphases: administrative management, operations management and human resources.

Management Information Systems Concentration

The management information systems concentration offers preparation for careers in the fields of electronic data processing and decision support systems. Included are the design, implementation, operation and management of information systems. The design emphasis focuses on computing technology for handling large amounts of data. The management emphasis stresses the manner in which information and information systems are developed and utilized in support of management decision-making and control in organizations. With a degree in business administration and experience as a programmer or systems analyst, advancement is possible to positions such as data processing manager or director of information systems.

Management Science Concentration

Management science integrates the computer with mathematics and business to model complex business situations. This program prepares the student to utilize effectively management science techniques to evaluate alternatives and to make optimal decisions. Employment opportunities in statistics include insurance, government, market research and business forecasting. Operations research can lead to careers in business analysis, inventory control, or urban planning. Openings in data processing and information systems are available in all fields of business.

Marketing Concentration

Marketing is useful for sales and many other careers. With a marketing concentration and suitable experience, possible jobs include department store manager or product line manager, as well as jobs in market research, advertising, physical distribution or sales management. The concentration offers emphases in international marketing, marketing research, advertising management, sales management, retailing, physical distribution and marketing management.

Student Organizations

Chapters of the following national honor societies have been established on campus with membership open to qualified students: Beta Alpha Psi (accounting), Beta Gamma Sigma (business), Financial Management Association Honor Society (finance), Omicron Delta Epsilon (economics), Phi Kappa Phi (all campus), Pi Sigma Epsilon (marketing). In addition there are the following departmentally affiliated clubs which students are encouraged to join: the Accounting Society, Circle K (management), Data Processing Management Association, Economics Association, Finance Association, Marketing Club, Personnel and Industrial Relations Association, Personnel Management Association of Aztlan, Rho Epsilon (real estate-finance), Securities and Investment Association and Society for the Advancement of Management.

Student Awards

Awards are presented each year to the outstanding student in the school and to the outstanding student in each of the six departments. Other awards include the Theodore H. Smith Outstanding Graduate Student Award and the Stephen J. Barres Leadership Award.

Transfer Credit for Business and Economics Courses

Students should see an adviser immediately regarding transfer credit. Lower-division courses taken at four-year institutions and all courses taken at two-year colleges may be used to satisfy only lower-division (i.e., 100 and 200 level) requirements at the university. Upper-division courses taken at four-year institutions may be used to satisfy upper division (i.e., 300 and 400 level) requirements at the university. Lists of approved courses are available in the Business Advising Center; other courses are subject to approval by the department chair concerned. In all cases, courses must be transferred from an appropriately accredited institution. In most cases, courses taken in the extension division of a university, or by correspondence, are not acceptable. If the institution is located outside the Southern California area, the student should supply catalog descriptions, course outlines and textbook titles.

PREPARATION FOR BUSINESS ADMINISTRATION AND ECONOMICS DEGREE PROGRAMS

Algebra and geometry are necessary for many required business courses. The equivalent of three years of high school mathematics, including a second course in algebra, is the prerequisite for the required Math 135, Business Calculus. Students without the necessary background should enroll in Math 100, Precalculus Mathematics.

A passing score on the Cal State Fullerton Examination in Writing Proficiency (EWP) is a prerequisite to the required Management 340. Students without adequate writing skills should enroll in Communications 103, Applied Writing; English 101, Beginning College Writing; English 106, Writing for ESL Students; Foreign Language Education 105A,B, English as a Second Language; or Business Administration 301, Business Writing.

Business students are encouraged to take courses in sociology, psychology, anthropology, speech communication, political science, history, philosophy, geography and foreign languages.

BACHELOR OF ARTS IN BUSINESS ADMINISTRATION

Degree Requirements

All of the following requirements must be met for the degree. For assistance in interpreting these requirements contact the Business Advising Center.

Required Lower-Division Core Courses

Economics 100 The Economic Environment (3)
Economics 200 Principles of Economics (3)

Note: Economics 210, Principles of Economics (5), may be substituted for Economics 100 and Economics 200. Students who have taken one semester of Principles of Economics (micro, macro or general) should enroll in Economics 200.

Math 135 Business Calculus (3) *or* Math 130 A Short Course in Calculus (4)
or Math 150A Analytic Geometry and Calculus (4)

Note: The management science concentration requires both Math 150A and 150B.

Accounting 201A,B Elementary Accounting (3,3)
Management 246 Business Law (3)
Management Science 265 Introduction to Information Systems and Computer Programming (3)

Note: Management Science 264, Computer Programming (2), *and* Management Science 263, Introduction to Information Systems (1), may be substituted for Management Science 265.

English Proficiency Requirement

Business Administration 301 Business Writing (3)

Cal State Fullerton Examination in Writing Proficiency (EWP)

Note: Both parts of this English proficiency requirement must be passed before the student achieves senior standing (90 units). A passing score on the EWP is a prerequisite to Management 340.

Required Upper-Division Core Courses

Economics 310 Intermediate Microeconomic Theory (3)
or Economics 320 Intermediate Macroeconomic Theory (3)

Note: The management concentration *requires* Economics 310.

Finance 320 Business Finance (3)
Management 339 Managing Business Operations and Organizations (3)
Management 340 Organizational Behavior (3)
Marketing 351 Principles of Marketing (3)
Management Science 361 Probability and Statistical Methods in Business and Economics (4)
Management Science 362 Management Science Methods in Business and Economics (3)
or Management Science 363 Management Science (3)

Required Concentration Courses

A minimum of 18 units of course work is required in one concentration. See listing of concentration requirements below.

Required Capstone Core Course

After completing all lower and upper-division core courses, take:
Management 449 Seminar in Business Policies (3)

Requirements in Other Subjects, Grades and Residence

Other subjects. Complete at least 50 units of courses in subjects other than business administration or economics. Complete all university requirements for the bachelor's degree.

Grade-Point Average (GPA). Attain at least a 2.0 GPA (C average) in all university courses, in all required business administration *core* courses, and in all required business administration *concentration* courses.

Grade option. Take all required core courses and all required concentration courses in the School of Business Administration and Economics for a letter grade (A,B,C,D,F). The Credit/No Credit grading option may not be used for these courses, and a grade of CR (credit) will not satisfy the requirements for the degree. *Exception:* Courses in calculus may be taken under the Credit/No Credit grading option.

Residence. At least nine units of courses in the area of concentration and at least 15 of the last 24 units of courses must be taken in residence at the School of Business Administration and Economics. Students also must fulfill university residence requirements.

Concentration Requirements for Majors in Business Administration

Business administration majors must complete the requirements of one concentration in addition to the degree requirements shown above.

Accounting Concentration (21 units required)

All students with an accounting concentration are required to take:
Accounting 301A,B Intermediate Accounting (3,3)
Accounting 302 Cost Accounting (3)
Accounting 308 Federal Income Tax (3)
Accounting 402 Auditing (3)
and two of the following courses:
Accounting 401 Advanced Accounting (3)
Accounting 403 Accounting for Governmental and Nonprofit Entities (3)
Accounting 407 Accounting Information Systems (3)
Accounting 408 Problems in Taxation (3)
Accounting 470 Tax Research, Practice and Procedures (3)

Economics Concentration (18 units required)

All students with an economics concentration are required to take:
Economics 310 Intermediate Microeconomic Theory (3)
as part of their business administration *core* requirements. In addition, the concentration requires:
Economics 320 Intermediate Macroeconomic Theory (3)
Economics 410 Government and Business (3)
and 12 units of upper-division economics electives, 3 units of which must be 400-level. (Management 446, Managerial Economics, will be accepted as an economics elective)

Students interested in economics should also consider the B.A. in Economics.

Finance Concentration (18 units required)

All students with a finance concentration are required to take:

Finance 331 Financial Analysis (3) *or*
Finance 332 Financial Administration (3)

and 15 units of upper-division finance electives (other than Finance 310)

Students may choose all of their courses from one of the following emphases, or may sample several emphases.

Financial Management Emphasis (18 units including *both* Finance 331 *and* Finance 332)

Finance 331 Financial Analysis (3)
Finance 332 Financial Administration (3)
Finance 370 International Business Finance (3)
Finance 425 Commercial Bank and Financial Institution Management (3)
Finance 432 Financial Forecasting and Budgeting (3)
Finance 433 Problems in Business Finance (3)
Finance 440 Capital and Money Markets (3)

Real Estate Emphasis (18 units including *either* Finance 331 *or* Finance 332)

Courses marked (*) partially satisfy the California State Real Estate Brokers License Examination requirements. Contact the Finance Department for further details.

Finance 331 Financial Analysis (3) *or*
Finance 332 Financial Administration (3)
Finance 351 Real Estate and Urban Land Analysis *(3)
Finance 451 Real Estate/Land Use Law—Case Studies * (3)
Finance 452 Real Estate Finance * (3)
Finance 453 Real Estate Valuation * (3)
Finance 454 Real Estate and Urban Development * (3)
Finance 455 Real Estate Investment Analysis * (3)
Finance 456 Property Development and Real Estate Policy Analysis * (3)
Finance 459 Real Estate Research (3)

Securities-Investments Emphasis (18 units including *either* Finance 331 *or* Finance 332)

Finance 331 Financial Analysis (3) *or*
Finance 332 Financial Administration (3)
Finance 340 Security Investments (3)
Finance 440 Capital and Money Markets (3)
Finance 442 Security Analysis and Portfolio Management (3)
Finance 443 Portfolio Analysis (3)
and 3 units upper-division finance electives (other than Finance 310)

Insurance Emphasis (18 units including *either* Finance 331 *or* Finance 332)

Finance 331 Financial Analysis (3) *or*
Finance 332 Financial Administration (3)
Finance 360 Principles of Insurance (3)
Finance 461 Business Risk Management (3)
Finance 462 Life and Health Insurance (3)
and 6 units upper-division finance electives (other than Finance 310)

Management Concentration (18 units required)

All students with a management concentration are required to take:

Economics 310 Intermediate Microeconomic Theory (3)

as part of their business administration *core* requirements. In addition, students *must* choose *one* of the following emphases.

Administrative Management Emphasis (18 units required) General supervision of organized activity.

Management 342 Production Operations (3)
Management 343 Personnel Management (3)
Management 444 Project Management (3)
Management 446 Managerial Economics (3) *or*
Management 447 Management Decision Games (3) *or*
Management 448 Seminar in Small Business Consulting (3)
and 6 units of upper-division management electives.

Operations Management Emphasis (18 units required) Management of new projects and production operations.

Management 342 Production Operations (3)
Management 343 Personnel Management (3)
Management 445 Advanced Production Operations (3)
Management 446 Managerial Economics (3) *or*
Management 447 Management Decision Games *or*
Management 448 Seminar in Small Business Consulting (3)
and 6 units of upper-division management electives.

Human Resources Management Emphasis (18 units required) Interpersonal relations and group leadership.

Management 343 Personnel Management (3)
Management 441 Labor-Management Relations (3)
Management 443 Individual, Interpersonal, and Group Dynamics for Management (3)
Management 444 Project Management (3)
and 6 units of upper-division management electives.

Management Information Systems Concentration (18 units plus 6 elective units required.)

All students with a management information systems concentration *must* choose *one* of the following emphases. In addition, six units of electives are required. See below.

Design Emphasis (18 units required. See note.)

Management 244 Introduction to Systems Concepts (3)
Management Science 270 File Concepts and COBOL Programming (3)
Management Science 300 Elements of Information Systems Design and Data Communication (3)
Accounting 302 Cost Accounting (3)
Management Science 404 Analysis of Information Systems (3)
Management Science 408 Data Base Management Systems (3)

Management Emphasis (18 units required. See note.)

Management 244 Introduction to Systems Concepts (3)
Management Science 270 File Concepts and COBOL Programming (3)
Management Science 300 Elements of Information Systems Design and Data Communication (3)
Accounting 302 Cost Accounting (3)
Management 444 Project Management (3)
Management 494 Seminar in Management Information Systems (3)

Note: *All students with a management information systems concentration are also required to take:* 6 units of upper-division electives in business administration or economics.

These electives should be chosen in consultation with the faculty coordinator of the management information systems concentration, and should be chosen from among the following courses:

Accounting 407 Accounting Information Systems (3)
Computer Science 302 * Information Structures (3)
Computer Science 310 * Systems Programming (3)
Computer Science 414 * Mini-Computer Software Systems (3)
Management Science 310 Advanced COBOL Programming (3)
Management Science 409 Distributed Data Processing (3)
Management Science 411 Data Processing with Minicomputers (3)
Management Science 416 Computer Performance Evaluation (3)
Management Science 418 Privacy, Security and Data Processing (3)
Management Science 420 Applied Statistical Forecasting (3)
Management Science 448 Computer Simulation in Business and Economics (3)

Management Science Concentration (18 units required)

All students with a management science concentration are required to take:
Math 150A,B Analytic Geometry and Calculus (4,4) (Note: Math 150A,B may be taken with the credit/no credit option.)

---

* These computer science courses will be counted as business administration electives for students with a management information systems concentration.

As part of their business administration *core* requirements. In addition, the concentration requires:

Management Science 461 Advanced Statistics (3)
Management Science 465 Linear Programming (3)

and 12 units of upper-division management science electives, to be approved by the chair of the Management Science Department.

Students may choose all of their courses from one of the following emphases, or may sample several emphases.

Information Systems Emphasis (18 units including Management Science 461 and 465)

Management Science 300 Elements of Information System Design and Data Communications (3)
Management Science 310 Advanced COBOL Programming (3)
Management Science 404 Analysis of Information Systems (3)
Management Science 408 Data Base Management Systems (3)
Management Science 409 Distributed Data Processing (3)
Management Science 411 Data Processing with Minicomputers (3)
Management Science 416 Computer Performance Evaluation (3)
Management Science 418 Privacy, Security and Data Processing (3)
Management Science 461 Advanced Statistics (3)
Management Science 465 Linear Programming (3)

Operations Research Emphasis (18 units including Management Science 461 and 465)

Management Science 448 Computer Simulation in Business and Economics (3)
Management Science 461 Advanced Statistics (3)
Management Science 465 Linear Programming (3)
Management Science 466 Mathematical Programming (3)
Management Science 480 Inventory and Production Analysis in Business and Economics (3)
Management Science 490 Queueing and Other Stochastic Process Models in Business and Economics (3)

Statistics Emphasis (18 units including Management Science 461 and 465)

Management Science 420 Applied Statistical Forecasting (3)
Management Science 422 Surveys and Sampling Design and Applications (3)
Management Science 430 Nonparametric Statistics (3)
Management Science 461 Advanced Statistics (3)
Management Science 465 Linear Programming (3)
Management Science 467 Statistical Quality Control (3)
Management Science 468 Design of Experiments (3)
Management Science 475 Multivariate Analysis (3)

Marketing Concentration (18 units required)

All students with a marketing concentration *must* choose *one* of the following emphases:

Advertising Management Emphasis (18 units required)

Marketing 354 Principles of Advertising (3)
Marketing 370 Consumer Behavior (3)
Marketing 379 Marketing Research Methods (3)
Marketing 454 Advertising Management (3)
Marketing 459 Marketing Problems (3)

and 3 unit upper-division marketing elective

Marketing Management Emphasis (18 units required)

3 unit behavioral course (Marketing 354, 356 *or* 370. See note.)
Marketing 359 Industrial Marketing (3)
Marketing 379 Marketing Research Methods (3) *or*
Marketing 457 Quantitative Marketing Analysis (3)
Marketing 459 Marketing Problems (3)

and 6 units of upper-division marketing electives

Note: BEHAVIORAL COURSES IN MARKETING

Marketing 354 Principles of Advertising (3 units)
Marketing 356 Professional Selling (3 units)
Marketing 370 Consumer Behavior (3 units)

Marketing Research Emphasis (18 units required)
Marketing 370 Consumer Behavior (3)
Marketing 379 Marketing Research Methods (3)
Marketing 479 Research Problems in Marketing (3)
Marketing 459 Marketing Problems (3)
and 6 units of upper-division marketing electives

Physical Distribution Emphasis (18 units required)
Marketing 358 Physical Distribution (3)
3 unit behavioral course (Marketing 354, 356 *or* 370. See note.)
Marketing 457 Quantitative Marketing Analysis (3)
Marketing 459 Marketing Problems (3)
and 6 units of upper-division marketing electives.

Retailing Emphasis (18 units required)
Marketing 352 Principles of Retailing (3)
Marketing 370 Consumer Behavior (3)
Marketing 379 Marketing Research Methods (3)
Marketing 456 Retailing Management (3)
Marketing 459 Marketing Problems (3)
and 3-unit upper-division marketing elective

Sales Management Emphasis (18 units required)
Marketing 356 Professional Selling (3)
Marketing 370 Consumer Behavior (3)
Marketing 379 Marketing Research Methods (3)
Marketing 455 Management of the Sales Force (3)
Marketing 459 Marketing Problems (3)
and 3-unit upper-division marketing elective

International Marketing Emphasis (18 units required)
3-unit behavioral course (Marketing 354, 356 *or* 370. See note.)
Marketing 379 Marketing Research Methods (3)
Marketing 458 International Marketing (3)
Marketing 459 Marketing Problems (3)
and 6 units of upper-division marketing electives

BACHELOR OF ARTS IN ECONOMICS

Degree Requirements

All of the following requirements must be met for the degree. For assistance in interpreting these requirements contact the Business Advising Center on the seventh floor of Langsdorf Hall. Students should *also* contact their faculty adviser in the Economics Department prior to or during their first semester.

Required Lower-Division Courses

Economics 100 The Economic Environment (3 units)
Economics 200 Principles of Economics (3 units)

Note: Economics 210, Principles of Economics (5 units), may be substituted for Economics 100 *and* 200. Students who have taken one semester of Principles of Economics (micro, macro or general) should enroll in Economics 200.

Accounting 201A,B Elementary Accounting (3,3 units)
Math 135 Business Calculus (3 units) *or* Math 130 A Short Course in Calculus (4 units)

Note: Accounting 201A, Elementary Accounting (3 units), *and* Math 150A,B, Analytic Geometry and Calculus (4,4 units), may be substituted for Accounting 201A,B *and* Math 135.

Management Science 265 Introduction to Information Systems and Computer Programming

Note: Management Science 264, Computer Programming (2 units), and Management Science 263, Introduction to Information Systems (1 unit) may be substituted for Management Science 265.

English Proficiency Requirement

Business Administration 301 Business Writing (3 units)
Cal State Fullerton Examination in Writing Proficiency (EWP)

Note: Both parts of this English proficiency requirement must be passed before the student achieves senior standing (90 units).

Required Upper-Division Courses

Economics 310 Intermediate Microeconomic Theory (3)
Economics 320 Intermediate Macroeconomic Theory (3)
Management Science 361 Probability and Statistical Methods in Business and Economics (4)
and 18 units of upper-division economics electives, 6 units of which must be 400 level.

Requirements in Other Subjects, Grades and Residence

Other subjects. Complete at least 50 units of courses outside the School of Business Administration and Economics. The department recommends that these courses be from the social sciences, mathematics and management science. Students planning to do graduate work in economics are advised to take Math 150A,B; Economics 440 and Economics 441. Complete all university requirements for the bachelor's degree.

Grade-Point Average (GPA). Attain at least a 2.0 GPA (C average) in all university courses; in all required courses in economics, accounting and management science and in *all* courses in economics.

Grade Option. Take all required courses in economics, accounting and management science for a letter grade (A,B,C,D,F). The credit/no credit grading option may not be used for these courses, and a grade of CR (credit) will not satisfy the requirements for the degree. *Exception:* Courses in calculus may be taken under the credit/no credit grading option.

Residence. At least 15 units of courses must be taken in residence at the School of Business Administration and Economics at Cal State Fullerton. Also fulfill university residence requirements.

MINORS IN THE SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS

A minor in business administration or in economics covers the role of business in society and the methods used by business. The minor in management information systems applies modern computer methods to the development of information systems to aid management decision making. Both the diploma and the transcript mention the minor. A working knowledge of *algebra* is necessary for several of the courses, but calculus is *not* required. *See an adviser in the Business Advising Center.*

MINOR IN BUSINESS ADMINISTRATION

Requirements *

Lower-Division Courses

Economics 100 The Economic Environment (3)
Economics 200 Principles of Economics (3)

Note: Economics 210, Principles of Economics (5), may be substituted for Economics 100 *and* Economics 200. Students who have taken one semester of Principles of Economics (micro, macro or general) should enroll in Economics 200.

Accounting 201A,B Elementary Accounting (3,3)
Management 246 Business Law (3)
Management Science 289 Computer Methods in Social Science (3)

Note: Management Science 265, Introduction to Information Systems and Computer Programming (3 units) may be substituted for Management Science 289. This substitution is recommended for students planning to take additional electives, many of which require Management Science 265 as a prerequisite.

English Proficiency Requirement

Cal State Fullerton Examination in Writing Proficiency (EWP)

Note: A passing score on the EWP is a prerequisite to Management 340.

---

* Students with a major in economics, who wish to minor in business administration, must take Economics 100 and 200 (or 210), Accounting 201A and B, and Management Science 265 as part of their major. For such students, the corresponding courses in the minor will be waived (note that Management Science 265 substitutes for Management Science 289) and *the minor will consist of* Management 246, Management 339 or 340, Finance 320 and Marketing 351.

Upper-Division Courses

Management 339 Managing Business Operations and Organizations (3) *or*
Management 340 Behavioral Science for Business (3)
Finance 320 Business Finance (3)
Marketing 351 Principles of Marketing (3)

MINOR IN ECONOMICS

Requirements *

Lower-Division Courses

Economics 100 The Economic Environment (3)
Economics 200 Principles of Economics (3)

Note: Economics 210, Principles of Economics (5), may be substituted for Economics 100 *and* Economics 200. Students who have taken one semester of Principles of Economics (micro, macro or general) should enroll in Economics 200.

English Proficiency Requirement

Cal State Fullerton Examination in Writing Proficiency (EWP)

Upper-Division Courses

Economics 310 Intermediate Microeconomic Theory (3)
Economics 320 Intermediate Macroeconomic Theory (3)
and 9 units of upper division economics electives

MINOR IN MANAGEMENT INFORMATION SYSTEMS

Requirements **

Twenty-one units of course work are required for the minor. Some of the courses listed below have prerequisites. In particular, students should be familiar with BASIC or FORTRAN programming (equivalent to Management Science 264 or 265) as a prerequisite to Management Science 270.

Required courses (6 units):

Accounting 201A Elementary Accounting (3)
Note: Accounting 201A will be waived for students with a major in economics.
Management 244 Introduction to Systems concepts (3)

and 6 units from:

Management Science 270 File Concepts and COBOL Programming (3)
Management Science 300 Elements of Information System Design and Data Communication (3)
Management Science 404 Analysis of Information Systems (3)

and 6 units from:

Accounting 302 Cost Accounting (3)
Accounting 407 Accounting Information Systems (3)
Computer Science 310 Systems Programming (3)
Management 444 Project Management (3)
Management Science 310 Advanced COBOL Programming (3)
Management Science 408 Data Base Management Systems (3)
Management Science 409 Distributed Data Processing (3)
Management Science 411 Data Processing with Mini/Micro Computers (3)
Management Science 416 Computer Performance Evaluation (3)
Management Science 418 Privacy, Security and Data Processing (3)
Management Science 448 Digital Simulation in Business and Economics (3)

and, in addition, 3 units from the lists above.

MASTER OF ARTS IN ECONOMICS
MASTER OF BUSINESS ADMINISTRATION
MASTER OF SCIENCE IN TAXATION

See "Graduate Programs."

** Students with a major in business administration may not minor in management information systems.

ACCOUNTING COURSES

201A,B Elementary Accounting (3,3)
Prerequisite: Accounting 201A must be taken before 201B. Accounting concepts and techniques essential to the administration of a business enterprise; measuring and communicating economic information; analyzing and recording financial transactions; preparation, analysis and interpretation of financial statements; introduction to managerial accounting; product costing; analysis and techniques for aiding management decisions; management control; interaction with finance, management science, interpersonal relations, motivation, and data-information systems. (Not open to freshmen)

301A,B Intermediate Accounting (3,3)
Prerequisites: Accounting 201B; 301A must be taken before 301B. Accounting theory; preparation of income statements, balance sheets, and statements of changes in financial position; present value and amount concepts; assets, liabilities and stockholders equity; price-level accounting; pensions; leases; earnings per share; financial statement analysis; accounting changes and error analysis.

302 Cost Accounting (3)
Prerequisite: Accounting 201B. Accounting information for management of manufacturing enterprises; cost records; cost behavior and allocation; product costing and inventory valuation; flexible budgeting; standard costs; responsibility accounting; cost planning and control; and operating decision analysis.

308 Federal Income Tax (3)
Prerequisite: Accounting 201B. Provisions, legislative history and implications of the federal income tax. The individual taxpayer.

401 Advanced Accounting (3)
Prerequisite: Accounting 301B. Business combinations; meaning, usefulness and methodology of consolidated financial statements; investments in non-subsidiary affiliates and corporate joint ventures; consolidated financial statements for overseas units of U.S.-based multinational companies; translations of foreign currencies.

402 Auditing (3)
Prerequisites: Accounting 301B and 302. The auditing standards and procedures used by financial and operational auditors. Management information and computer systems, internal control, audit evidence, professional responsibilities and legal liabilities, standards of reporting financial information.

403 Accounting for Governmental and Nonprofit Entities (3)
Prerequisite: Accounting 201B or 511. Fund accounting as applied to governmental and nonprofit entities; state and federal governments, municipalities, hospitals, and universities. Budgets, tax levies, revenues and appropriations, expenditures and encumbrances, various types of funds, and accounting statements.

407 Accounting Information Systems (3)
Prerequisites: Accounting 301A and 302 and Management Science 265 or equivalent. Alternative accounting systems used for the collection, organization and presentation of information. Theory and practice of information processing, organizational, behavioral, and mechanical.

408 Problems in Taxation (3)
Prerequisite: Accounting 308. Federal income tax as it applies to corporations, partnerships, fiduciaries, international operations, securities and fringe benefits including retirement plans, federal estate and gift taxes as they apply to taxable transfers.

470 Tax Research, Practice and Procedures (3)
Prerequisite: Accounting 308. The methodology of tax research including case studies; the management of a tax practice; administration procedures governing tax controversies; rights and obligations of taxpayers and tax practitioners.

495 Internship (1–3)
Prerequisites: Accounting 301B (may be taken concurrently), Accounting 302, a major in accounting, consent of the department internship adviser, and at least junior standing, 2.5 GPA and one semester in residence at the university. Planned and supervised work experience. May be repeated for credit up to a total of six units. Credit/No Credit only.

499 Independent Study (1–3)
Prerequisites: senior standing and approval of department chair. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

502 Seminar in Accounting Theory (3)
Prerequisites: Accounting 301B, classified SBAE status and consent of instructor. The effects of professional, governmental, business, and social forces on the evolution of accounting theory.

503 Seminar in Contemporary Accounting Problems (3)
Prerequisite: classified M.S. in Accounting status or consent of instructor. Current issues in financial reporting including pronouncements by the Financial Accounting Standards Board and the Securities and Exchange Commission. Coverage of topics will change as new issues in accounting emerge.

505 Seminar in Auditing (3)
Prerequisites: Accounting 402 and classified SBAE status. Auditing theory and practices; professional ethics; auditing standards; Securities and Exchange Commission and stock exchange regulations; auditor's legal liability; statement trends and techniques.

506 Seminar in Professional Accounting Communications (3)
Prerequisite: classified M.S. in Accounting status or consent of instructor. Compilation and composition of accounting reports and client presentations relating to accountants' working papers, client engagement letters, management advisory reports and prospecti.

507 Seminar in Accounting Information Systems (3)
Prerequisite: Accounting 407 or equivalent with consent of instructor. Case studies of computer-based accounting systems used by organizations such as universities, banks, industrial corporations and CPA firms. Emphasis on accounting information, reports and internal controls.

508 Seminar in Tax Planning (3)
Prerequisites: Accounting 308 and classified SBAE status, or consent of instructor. Substantive provisions of federal tax law; tax planning from a corporate viewpoint; case studies of the effect of federal tax law on business decisions.

510 Financial Accounting (3)
Prerequisite: classified SBAE status. Accumulation, organization, and interpretation of financial and quantitative data relevant to the activities of the corporate business enterprise. The interaction of accounting with finance, interpersonal relations, motivation, and data-information systems.

511 Seminar in Managerial Accounting (3)
Prerequisites: Accounting 201B or 510, consent of instructor and classified SBAE status. Accounting information for management decisions; elements of manufacturing, distribution and service costs; cost systems; standard costs; cost reports; cost analysis.

518 Seminar in International Accounting (3)
Prerequisites: Accounting 201B or 511 and classified SBAE status. Comparative analysis of accounting principles and practices outside the United States; international financial accounting standards; current problems of international financial reporting, accounting planning and control for international operations; multinational companies.

521 Seminar in Administrative Accounting (3)
Prerequisites: Accounting 302 or 511; classified SBAE status and consent of instructor. Integrative aspects of accounting, financial, and quantitative data for managerial decision-making; long-term, short-term profit planning; budgetary control; cost analysis; financial analysis and planning; taxation; and transfer pricing.

572 Seminar in Taxation of Corporations and Shareholders (3)
Prerequisites: Accounting 308 and classified SBAE status, or consent of instructor. Federal taxation relating to corporations; organizing distributions, liquidations and reorganizations.

573 Seminar in Taxation of Property Transactions (3)
Prerequisites: Accounting 308 and classified SBAE status, or consent of instructor. Federal taxation relating to sales, exchanges and other transfers.

574 Seminar in Taxation of International Business Operations (3)
Prerequisites: Accounting 308 and classified SBAE status, or consent of instructor. Federal taxation relating to U.S. citizens and corporations with foreign source income and of foreign persons with U.S. source income; planning for foreign operations.

575 Seminar in Estate, Gift, Inheritance Taxes and Estate Planning (3)
Prerequisites: Accounting 308 and classified SBAE status, or consent of instructor. Federal and California death taxes and the planning of personal estates.

576 Seminar in State and Local Taxation (3)
Prerequisites: Accounting 308 and classified SBAE status, or consent of instructor. Application of interstate income allocations; multi-state tax compact; separate v. apportionment accounting; foreign country sourced income. Also, California taxes as applied to businesses and individuals.

577 Seminar in Taxation of Employee Compensation (3)
Prerequisites: Accounting 308 and classified SBAE status, or consent of instructor. Federal taxation relating to employee compensation including pensions and profit sharing, stock options, ESOP's, IRA's, Keogh's, maximum tax 10-year averaging, death benefits, group term life, etc.

578 Seminar in Taxation of Partnerships (3)
Prerequisites: Accounting 308 and classified SBAE status, or consent of instructor. Federal taxation relating to partnerships, estates, trusts and other special entities.

597 Project (3)
Prerequisite: classified SBAE status. Directed independent inquiry. Not open to students on academic probation.

599 Independent Graduate Research (1–3)
Prerequisites: classified SBAE status, consent of instructor, and approval by department chair. May be repeated for credit. Not open to students on academic probation.

BUSINESS ADMINISTRATION COURSES

301 Business Writing (3)
Prerequisites: English 101 or Communications 103 or equivalent (with a grade of C or better) and a satisfactory score on the course pretest. Principles of effective writing in business. Extensive practices in various forms of business writing. Case studies. Satisfies the classroom portion of the upper-division writing requirement for business and economics majors.

596 M.B.A. Management Game (3)
Prerequisite: classified M.B.A. status and within six units of completion of the M.B.A. study plan. This serves as the required terminal evaluation for M.B.A. candidates. Policy decisions using the principles and practices of the several disciplines in the M.B.A. program. Teams plan and execute strategies and analyze the impacts of their decisions under uncertainty. Not open to students on academic probation.

ECONOMICS COURSES

100 The Economic Environment (3)
The application of economics to the problems of unemployment and inflation, the distribution of income, competition and monopoly, the role of government in the economy, and other policy issues.

200 Principles of Economics (3)
Prerequisite: Economics 100. Basic economic theory. The central problem of allocating scarce resources in a market economy and the determination of the level of output, employment, and prices, and international applications.

210 Principles of Economics (5)
Prerequisite: open only to junior transfers. (Duplicates 100 and 200.) Economic analysis and policy. The central problem of scarcity, economic institutions of the United States, resource allocation and income distribution, economic stability and growth, the role of public policy, and international applications.

310 Intermediate Microeconomic Analysis (3)
Prerequisite: Economics 200 or 210. Rational decision-making behavior of consumers and firms and price and output determination in markets.

320 Intermediate Macroeconomic Analysis (3)
Prerequisite: Economics 200 or 210. The determinants of the level of national income, employment and prices, and monetary and fiscal policies.

330 Comparative Economic Systems (3)
Prerequisite: Economics 100 or 210. Alternative economic systems; their theoretical foundations, actual economic institutions, and achievements and failures. Contrast between socialist and capitalist systems.

331 The Soviet Economy (3)
Prerequisite: Economics 100 or 210. The structure and performance of the Soviet economy; the problems of allocating scarce resources and sustaining economic growth in a planned economy.

332 Economic Problems of Asia (3)
Prerequisite: Economics 100 or 210. The natural resources, population, agricultural, industrial, transportation, communications, monetary, banking, etc. problems of Asia, (i.e., China, Japan, and the Asian subcontinent). The relation of non-economic problems to the economy.

333 Economic Development: Analysis and Case Studies (3)
Prerequisite: Economics 100 or 210. The processes of economic growth with references to developing areas. Capital formation, resource allocation, relation to the world economy, economic planning and institutional factors, with case studies.

335 The International Economy (3)
Prerequisite: Economics 100 or 210. The theory, practice and institutions of the international economy. International trade and investment; European economic community; balance of payments; foreign exchange rates; multinational enterprise; trade with developing countries; East-West trade; international economic policy.

340 The Economics of Regulation (3)
Prerequisite: Economics 100 or 210. The laws pertaining to regulation and the implications for each regulated industry. Industry studies; the effects of regulation on price, output, innovations, etc.

350 American Economic History (3)
Prerequisite: Economics 100 or 210. The development of American economic institutions; economic problems, economic growth, and economic welfare.

351 European Economic History (3)
Prerequisite: Economics 100 or 210. The evolution of European economic institutions and their relation to the development of industry, commerce, transportation and finance in the principal European countries.

361 Urban Economics (3)
Prerequisite: Economics 100 or 210. Theory and analysis of the urban economy, urban economic problems and policy.

362 Environmental Economics (3)
Prerequisite: Economics 100 or 210, or consent of instructor. Economic analysis of environmental problems. Externalities, property rights, social costs and benefits, and policy alternatives as these relate to the environment.

363 The Economics of Energy (3)
Prerequisite: Economics 100 or 210. Economic theory applied to energy problems, the impact of energy development on economic structure, and the role of government in allocating energy resources and influencing their use.

364 Benefit-Cost Analysis (3)
Prerequisite: Economics 100 or consent of instructor. Evaluation of benefit-cost studies prepared for government programs; educational and water resources. Methods of estimating environmental, cultural, life-saving, and macroeconomic benefits and costs; handling future benefits and costs.

365 Public Finance (3)
Prerequisite: Economics 200 or 210. Government finance at the federal, state, and local levels; the impact of taxation and spending on resource allocation, income distribution, stabilization and growth.

370 Economics of Research, Development and Technological Change (3)
Prerequisite: Economics 100 or 210. Research and development and technological change in the economy; concepts, issues, and major figures in the study of the economics of technology; the assessment of technological change; the impacts of technological change.

410 Government and Business (3)
Prerequisite: Economics 310. Business organization, conduct and performance; the rationale and impact of public policy on business and business activities, including the regulated industries, sick industries and antitrust policy.

411 International Trade (3)
Prerequisite: Economics 310. The theory of international trade and the means and significance of balance of payments adjustments; past and present developments in international, commercial and monetary policy.

412 Labor Economics (3)
Prerequisite: Economics 310. Labor supply and demand, labor force participation, employment, unemployment, human capital, wage differentials, disadvantaged labor market groups, discrimination and wage-related income transfers.

420 Money and Banking (3)
Prerequisite: Economics 320. The money supply process and the impact of monetary policy on economic activity.

421 Monetary and Fiscal Policy (3)
Prerequisite: Economics 320. The techniques of monetary and fiscal policy; of their relative roles in promoting economic stability and growth.

440 Introduction to Econometrics (3)
Prerequisites: Economics 200 or 210 or 301 *and* Management Science 361. The theory and application of econometrics, economic measurement; the specification and estimation of econometric models; statistical methods in economic research.

441 Introduction to Mathematical Economics (3)
Prerequisites: Economics 200 or 210 *and* Math 135 or equivalent. Economic theory, from microeconomics and macroeconomics. Content varies; constrained optimization problems and rational decision-making.

450 History of Economic Thought (3)
Prerequisites: Economics 310 or 320. Major schools of thought and of leading individual economists as they influenced economic thought and policy.

495 Internship (1–3)
Prerequisites: Management Science 361 (may be taken concurrently), Economics 310 or 320, a major in economics, consent of the department internship adviser, and at least junior standing, 2.5 GPA and one semester in residence at the university. Planned and supervised work experience. May be repeated to a total of six units credit. Credit/No Credit grading only.

499 Independent Study (1-3)
Prerequisites: Economics major or concentration, senior standing and approval by the department chair. Open to undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

502 Advanced Microeconomic Analysis (3)
Prerequisites: Economics 310 and classified SBAE status or consent of instructor. The determination of prices and outputs in a market system. Demand, cost, production, theories and programming models of the firm, probabilistic and investment models of the firm, game theoretic and behavioral models of the firm.

503 Advanced Macroeconomic Analysis (3)
Prerequisites: Economics 320 and classified SBAE status or consent of instructor. The determination of employment, fluctuations of real and money income, and the forces underlying economic growth.

505 Economic Models and Forecasting (3)
Prerequisites: Economics 440 or consent of instructor, and classified SBAE status. Statistical methods of econometric estimation and forecasting. Practical problems of economic forecasting: model specification, multivariate regression, forecasting for firms, and the national economy.

506 Seminar in Economic Analysis (3)
Prerequisites: Economics 502, 503 and 505; classified SBAE status or consent of instructor. Students select topics and via independent investigation, seminar presentation and critique develop their analytical and research abilities, culminating with an acceptable paper.

514 Principles and Problems of Economic Policy—Part A (3)
Prerequisite: classified SBAE status. Micro- and macroeconomic theory and policy within the framework of a market system. International applications. (Not open to Economics M.A. candidates.)

515 Principles and Problems of Economic Policy—Part B (3)
Prerequisites: Economics 514 or 100 and classified SBAE status. Modern microeconomic theory, optimization techniques, and microeconomic policy. Mathematical programming, consumer choice, production theory, firm and market equilibrium, and government regulation. (Not open to Economics M.A. candidates.)

516 Economics and Benefit-Cost Analysis (3)
Prerequisites: classified status in SBAE, M.P.A., or the M.S. in Environmental Studies. Economics and benefit-cost analysis of public projects. Consumer demand and the estimation of benefits; the nature of cost in a market economy; price controls, unemployment and inflation; and criteria for choice, for multi-year projects. For elective credit in the M.P.A., M.B.A., or the environmental studies M.A.

517 Economics of Public Finance (3)
Prerequisite: classified status in M.P.A. program or consent of instructor. Economics and federal, state and local governmental spending, taxation and borrowing. Major taxes, their effects on market prices, income distribution, employment and inflation and evaluation of reform proposals. (Not open to M.A. Economics or M.B.A. candidates.)

522 Comparative Economics Seminar (3)
Prerequisites: Economics 515 or 310 and classified SBAE status. Analytical and prescriptive approaches to economic problems of scarcity, development, fiscal and monetary policy, planning and poverty. (Not open to Economics M.A. candidates.)

596 Topics in Economic Analysis and Policy (3)
Prerequisites: Economics 310 and 320; classified SBAE status or consent of instructor. Contemporary research and materials such as: resource economics; history of economic thought; international monetary systems; economic forecasting; economics of planning; macroeconomics; human resource economics. May be repeated for credit.

597 Project (3)
Open to qualified graduate students. Directed independent inquiry. Not open to students on academic probation.

599 Independent Graduate Research (1-3)
Prerequisites: graduate standing, consent of instructor and approval by department chair. Open to graduate students desiring to pursue independent inquiry. May be repeated for credit. Not open to students on academic probation.

FINANCE COURSES

310 Personal Financial Management (3)
Financial problems of the household in allocating resources and planning expenditures. Housing, insurance, installment buying, medical care, savings and investments. (May not be used to fulfill the concentration requirement in finance.)

320 Business Finance (3)
Prerequisite: Accounting 201B. Financing business enterprises; financial planning and control; analysis of alternative sources and uses of combinations of short-, intermediate- and long-term debt and equity. Cost of capital. Study of capital investment decisions; capital budget analysis and valuation; working capital and capital structure management; relative impact on the international environment of financial decisions.

331 Financial Analysis (3)
Prerequisite: Finance 320. Fund statement analysis; cash budgeting and pro forma financial statements; traditional versus modern financial statement analysis; break-even analysis; cash, marketable securities, inventory, and accounts receivable management models; short-term borrowing.

332 Financial Administration (3)
Prerequisite: Finance 320. Financial leverage; debt, common, and preferred stock financing; cost of capital and capital structure; leasing; dividend policy; mergers; failure and reorganizations; capital budgeting.

340 Security Investments (3)
Prerequisites: Finance 320 and Management Science 265, or consent of instructor. The analysis, selection and management of securities; characteristics of securities, valuation, trading methods, role of mutual funds and other institutions; computerized statement analysis and portfolio selection methods.

351 Real Estate and Urban Land Analysis (3)
Prerequisite: Finance 320 or consent of instructor. Real estate principles, practices and investment decisions. Equity investment, finance, legal aspects, practices, principles, property development, real estate administration in the public sector, real estate market analysis, valuation.

360 Principles of Insurance (3)
Prerequisite: junior or senior status. Life, casualty and liability insurance, individual and group insurance programs; methods of establishing risks and rates.

370 International Business Finance (3)
Prerequisite: Finance 320 or consent of instructor. Financing problems of international business. The international financial environment, taxation of foreign income, international capital and money markets, problems of risk in foreign investments, and financial techniques for the operation of a multinational firm.

425 Commercial Bank and Financial Institution Management (3)
Prerequisite: Finance 320. The solution of financial institution problems. Major financial intermediaries and the decision-making problems they face. Regulation and its effect on management operations. Group problems and case studies.

432 Financial Forecasting and Budgeting (3)
Prerequisite: Finance 320. Forecasting in financial management; construction and interpretation of economic forecasts for the economy, industry, and the firm; construction and interpretation of financial plans; evaluation of capital acquisition decisions under certainty and uncertainty conditions.

433 Problems in Business Finance (3)
Prerequisite: Finance 331 or 332. Case studies. Group problems of estimating funds requirements, long-term financial planning, controlling and evaluating cash flows, and financing acquisitions and mergers, capital budgeting, and cost of capital. Group problems and case studies.

440 Capital and Money Markets (3)
Prerequisite: Finance 320. Capital and money markets in the American economy; markets for new corporate and government issues; secondary markets; interrelation of financial institutions; factors influencing yields and security prices.

442 Security Analysis and Portfolio Management (3)
Prerequisite: Finance 340 or consent of instructor. Computer applications for statement analysis, valuation models, and portfolio selection and management models. Standard and Poor's "compustat tapes." A simulated portfolio management game at the end of the course.

443 Portfolio Analysis (3)
Prerequisite: Finance 340 and Management Science 361. Markowitz and Sharpe models; basic statistical, mathematical and economic concepts in portfolio theory; efficient capital markets; applications of portfolio theory to assets other than securities; portfolio revisions; survey of developments in the field; computer applications.

450 Real Estate Investment Strategy (3)
Prerequisite: Finance 351 or consent of instructor. Background discussion of investment risks, reasons for investing in real estate from the viewpoint of the individual investor. Preparation of personal real estate investment portfolio and analytical methods for real estate investment evaluation.

451 Real Estate/Land Use Law—Case Studies (3)
Prerequisite: Finance 351. Real estate law. Cases provide illustrations of specific legal situations; financial institutions, property rights, zoning, land use law, and environmental impact requirements.

452 Real Estate Finance (3)
Prerequisite: Finance 351. Financial institutions and real estate credit. Sources and uses of capital (funds) in financing real estate transactions. Money and capital markets and their effect on credit availability. Instruments in real estate finance. Investment methods and decisions. Group problems and case studies.

453 Real Estate Valuation (3)
Prerequisite: Finance 351. Real property value, historical evolution of valuation principles, approaches in urban and real property appraisals, alternative methods and techniques for property valuation.

454 Real Estate and Urban Development (3)
Prerequisite: Finance 351. Factors and influences of urban growth and development. Economic factors and real estate supply and demand. Location theory and urban growth patterns. Public policy as a factor in real estate development. Analysis of real estate markets.

455 Real Estate Investment Analysis (3)
Prerequisite: Finance 351. Alternative analytical techniques in evaluating real estate investments. Tax aspects, measurement of investment returns, application of computer models to investment decisions. Lecture, discussion and case analysis of major investment types—raw land, apartment houses, commercial and industrial uses.

456 Property Development and Real Estate Policy Analysis (3)
Prerequisite: Finance 351. Decision making process in the property development process—from raw land to retail marketing of completed product. Policy formulation and implementation, project feasibility analysis, financial analysis, computer assisted analysis; case studies.

459 Real Estate Research: Selected Topics (3)
Prerequisites: Finance 351 and 452 or 453. Group problems, laboratory work as determined by computer terminal availability.

461 Business Risk Management (3)
Prerequisite: Finance 360 or consent of instructor. Techniques and structures of risk management; risk planning, control and financing in the business enterprise.

462 Life and Health Insurance (3)
Prerequisite: Finance 360 or consent of instructor. Life and health insurance coverages, both individual and group policies; the operation of insurance companies. Business and estate planning, pension plans, and government benefits.

495 Internship (1–3)
Prerequisites: Finance 331 or 332, a major in finance, consent of department internship adviser, junior standing, 2.5 GPA and one semester in residence at the university. Planned and supervised work experience. May be repeated for credit up to a total of six units. Credit/No Credit only.

499 Independent Study (1–3)
Prerequisites: senior standing and approval by department chair. Open to undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

517 Managerial Finance (3)
Prerequisites: Accounting 510 and classified SBAE status. The methodology of financial management. The primary tools for financial analysis, long-term investment decisions, valuation and working capital management. International applications.

523 Seminar in Corporate Financial Management (3)
Prerequisites: Finance 517 and classified SBAE status. The analysis of the financial decision-making process through case studies and seminar presentations. Current financial theory and models. International applications.

533 Seminar in Financial Administration (3)
Prerequisites: Finance 523 and classified SBAE status. Optimal financing and asset administration; advanced techniques of capital budgeting; application of analytical methods to the administration of the finance function of the business firm.

540 Seminar in Financial Markets (3)
Prerequisites: Finance 440 or consent of instructor and classified SBAE status. Structure and operation of major financial institutions; portfolio composition, price-cost problems, and market behavior; analysis of financial intermediation and interrelation of financial institutions and markets.

541 Seminar in Investment Management (3)
Prerequisites: Finance 340 or consent of instructor and classified SBAE status. Problems of investment and portfolio management; concepts of risk evaluation and investment criteria; analysis of interest rate movements; investment valuation and timing; regulation and administrative problems of the industry.

551 Seminar in Real Estate Investment (3)
Prerequisites: Finance 351 or consent of instructor and classified SBAE status. Problems of real estate investment; concepts of evaluation and investment criteria; analysis of real property values; real estate development and financing. Case studies.

570 Seminar in International Financial Management (3)
Prerequisites: Finance 517 or consent of instructor and classified SBAE status. The financial problems of the multinational firm. International financing instruments, capital investment decisions, and constraints on the profitability of multinational businesses.

597 Project (3)
Prerequisite: classified SBAE status. Directed independent inquiry. Not open to students on academic probation.

599 Independent Graduate Research (1–3)
Prerequisites: classified SBAE status, consent of instructor and approval by department chair. May be repeated for credit. Not open to students on academic probation.

MANAGEMENT COURSES

244 Introduction to Systems Concepts (3)
The functions of goal-seeking organizations, basic systems concepts in business and society, and the systems approach to problem solving.

245 Personal Law (3)
The role of law as it affects the citizen in our society. Case studies relating to a person's role as a student, family member, owner of a vehicle, consumer, insured, homeowner, renter, saver, investor, employee and estate planner.

246 Business Law (3)
Philosophy, institutions and role of law in business and society. Functions of courts and attorneys, case studies in areas of contracts, and on the law relating to sale of goods.

339 Managing Business Operations and Organizations (3)
Prerequisites: all lower division business core courses or instructor's consent. Administrative processes in utility-creating business operations: decision-making; planning; controlling; organizing; staffing; supporting business information systems; measuring and improving effectiveness; production processes, production operations and institutions in American and worldwide business. Uses the Production Lab. Includes taking the Cal State Fullerton Examination in Writing Proficiency (fee charged).

340 Organizational Behavior (3)
Prerequisites: general education in social sciences, and a passing score on the Cal State Fullerton Examination in Writing Proficiency. Social and cultural environments of business. Business ethics. Communication, leadership, motivation, perception, personality development, group dynamics and group growth. Human behavior and organizational design and management practice in American and world-wide business. Uses the Behavioral Lab.

342 Production Operations (3)
Prerequisites: Management 339 and Management Science 361. Production systems which combine materials, labor, and capital resources to produce goods. Systems, models and methods for management of production operations. Product and process development. Utilization of computer decision models. Uses the Production Lab.

343 Personnel Management (3)
Prerequisite: Management 339 or consent of instructor. The personnel function, its activities, and its opportunities. Management's responsibilities for selection, development and effective utilization of personnel. Open to non-business majors.

347 Business Law (3)
Prerequisite: Management 246 or equivalent. Philosophy, institutions and role of law in business relationships. Business ethics. Case studies in areas of agency, partnerships, corporations, bankruptcy, unfair competition and trade regulation.

348 Business Law (3)
Prerequisite: Management 246 or equivalent. The philosophy, institutions and role of law in commercial and personal transactions: case studies in personal property, bailments, commercial paper, secured transactions, real property, mortgages, trusts, community property, wills, estate administration and insurance.

400 Regulatory Law of Business (3)
Prerequisites: Management 246, Economics 310. Philosophy, institutions and role of law as it regulates business. Courts, administrative agencies, cases studies relating to securities, antitrust, consumer protection, employment, environment and managerial social responsibility.

431 Women in Management (3)
Prerequisite: Management 340. (For men and women.) Increasing participation in the management of organizations. Employment and earnings, affirmative action, understanding male-female and female-female work relationships, dual careers, and learning how to increase one's effectiveness in organizations.

440 Emerging Issues in Management (3)
Prerequisites: Management 339 and 340 or consent of instructor. For upper-division and graduate students. Business and management in America. The interrelationships of technological, economic, political and social forces with the business enterprises and their ethical obligations to owners, employees, consumers and society at large. Open to non-business majors.

441 Labor-Management Relations (3)
Prerequisite: Management 339. Impact of labor-management relations upon labor, management, and the public. Proper grievance procedure, collective bargaining and settlement of disputes. Uses the Behavioral Lab.

442 Advanced Labor Relations (3)
Prerequisite: Management 441. Effects of federal and state legislation on union and nonunion environments in both private and public sectors. Practicum in collective bargaining procedures. Case studies. Uses the Behavioral Lab.

443 Individual, Interpersonal and Group Dynamics for Management (3)
Prerequisites: Management 339, 340 or consent of instructor. Case studies and current literature on human problems of work situations. Developing self-knowledge; manager motivation; communicator strengths; improving interaction skills; and improving interaction processes in groups. Uses the Behavioral Lab. (2 hours lecture, 3 hours laboratory)

444 Project Management (3)
Prerequisites: Management and Management Science core and other 300 level management courses in student's concentration. Technology for managing business and other enterprises as cybernetic systems. The design and control of systems appropriate for product, project and program levels of analysis. (2 hours lecture, 2 hours laboratory) Uses Production Lab.

445 Advanced Production Operations (3)
Prerequisites: Management 342 and Management Science core. Planning and control methodologies for production operations. Quantitative approaches which integrate cost, schedule and technical performance criteria. Collection, evaluation and use of real-time information. Individual and group projects. Uses the Production Lab.

446 Managerial Economics (3)
Prerequisites: Management Science core, Economics 310 and Management 339. Management tools applied. Economics and statistics in decision-making process; use of cases and group problems; cost, demand, supply, price, product and competition.

447 Management Decision Games (3)
Prerequisites: business administration core less Management 449, or consent of instructor. A simulation of an oligopolistic industry. Statistics and other analytical tools to make managerial decisions in management. (2 hours lecture; 2 hours activity)

448 Seminar in Small Business Consulting (3)
Prerequisites: Accounting 201B, Management 339, Marketing 351, and senior standing. A seminar. Planning and working in a consulting relationship with small local businesses. Lectures, research and field work. (1 hour lecture, 6 hours fieldwork)

449 Seminar in Business Policies (3)
Prerequisites: all other School of Business Administration and Economics core courses and departmental approval. Integrative cases from top management viewpoint. Administrative processes, ethical-legal-economic implications of business decisions, international applications; organization theory, and policy formulation. Individual and team efforts. Uses the Behavioral Lab.

494 Seminar in Management Information Systems (3)
Prerequisites: 300-level business core courses, 300-level requirements for concentration in management information systems and Management 444. Senior seminar and applications in the design, implementation and use of management decision/information systems.

495 Internship (1–3)
Prerequisites: six units of upper division management courses, including Management 339, major in management, consent of department internship adviser, and at least junior standing, 2.5 GPA and one semester in residence at the university. Planned and supervised work experience. May be repeated for credit up to a total of six units. Credit/No Credit only.

499 Independent Study (1–3)
Prerequisites: management concentration, senior standing, and approval by faculty sponsor and department chair of proposed statement of work. Open to qualified students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

516 Organizational Theory and Management of Operations (3)
Prerequisites: classified SBAE status, Accounting 510, Economics 514 and Management Science 512. Modern organization theory and application in utility-creating operations. Interpersonal behavior, planning, control, organizing, directing, communication, production and information systems, and measures of effectiveness. International applications. Business ethics and relationships to society and politics. Graduate discussion and research reports.

518 Legal Environment of Business (3)
Prerequisites: classified SBAE status and Accounting 510. Philosophy, institutions and role of law in business. Legal implications inherent in business decisions. Business ethics. Case studies in areas of contracts, sale of goods, agency, partnerships and corporations.

524 Seminar in Organizational Behavior and Administration (3)
Prerequisites: classified SBAE status, Management 516 and 518 or equivalent. Human behavior in organization, studies in organizational theories, and administrative action.

542 Seminar in Labor-Management Relations (3)
Prerequisites: classified SBAE status, Management 516 and 518. A seminar that focuses on various aspects of the labor management relationship, issues in collective bargaining, the laws governing the relationship, contract administration, grievance handling, dispute settlement and arbitration. Negotiation simulation and case analyses.

543 Seminar in Personnel Administration (3)
Prerequisites: classified SBAE status, Management 516 and 518, or equivalent. Cases, problems, and significant personnel administration literature in personnel administration and human relations.

547 Comparative Management (3)
Management practices and processes in five geographical areas; market-structures and management characteristics different from those in the United States. Constraints which vary between countries because of cultural, legal, economic, and/or political differences.

548 Seminar in International Management (3)
Prerequisites: classified SBAE status, Management 516 and 518, or equivalent. Problems in managerial qualifications and training, political structure within and without the operations, foreign receptivity to United States business, organizing and controlling the international firm. Management in selected countries.

597 Project (3)
Prerequisite: classified SBAE status. Directed independent project. Student will select and have approved a project proposal, conduct the project, and prepare a formal analysis and report. Not open to students on academic probation.

599 Independent Graduate Research (1–3)
Prerequisites: classified SBAE status, consent of instructor and consent of department chair. May be repeated for credit. Not open to students on academic probation.

MANAGEMENT SCIENCE COURSES

263 Introduction to Information Systems (1)
Concepts on data and information; modern digital computer and its peripheral equipment; software and problem-solving concepts; various computer information systems; examples of business applications. Students may not receive credit for both Management Science 263 and 265.

264 Introduction to Computer Programming (2)
Problem-oriented languages of computers. Using computer programming. May be repeated for credit for each separate computer language (with departmental approval).

265 Introduction to Information Systems and Computer Programming (3)
Introduction to information systems; computer organization and problem-solving concepts; computer programming in the BASIC language, including file processing; applications to business data processing.

270 File Concepts and COBOL Programming (3)
Prerequisite: Management Science 264 or 265 or Computer Science 112 or equivalent. Fundamentals of structured COBOL; multiple-level table handling, subscripting and indexing; file organization documentation; testing and debugging projects in COBOL. (Same as Computer Science 270)

289 Computer Methods in Social Science (3)
The history and application of digital computers to problems in the social sciences. Student-written programs in a problem-oriented computer language. Computers; law and society; artificial intelligence; and other topics.

300 Elements of Information System Design and Data Communication (3)
Prerequisite: Management Science 270. Search, sort; tape and disk; record format layouts, storage capacity, I/O timings; indexed sequential and direct files; database and data structure; data communications: analog and digital data, coding structure, transmission mode and media, telecommunication hardware; COBOL illustrations and project.

310 Advanced COBOL Programming (3)
Prerequisite: Management Science 270 or consent of the instructor. Advanced COBOL features: Indexed and direct file processing, report writer, sort feature, declarative and linkage sections, segmentation. Overlay structure, survey of job control language, libraries. Direct access. Hardware devices.

361 Probability and Statistical Methods in Business and Economics (4)
Prerequisites: Math 135 and Management Science 265 or equivalents. Probability concepts; expectations; descriptive statistics; discrete and continuous random variables; sampling; estimation; hypothesis testing; simple and multiple regression; time series; forecasting; nonparametric statistics.

362 Management Science Methods in Business and Economics (3)
Prerequisite: Management Science 361 (may be taken concurrently). Mathematical methods and their application to business and economic problems, e.g., production control, scheduling, inventory control, PERT, decision and network analyses, simulation and queueing. Elementary mathematical optimization and production models.

363 Management Science (3)
Prerequisites: Management Science 361 or *both* Math 335 and Computer Science 112. The basic concepts of management science and its relationship to economics and decision theory. Optimization in continuous models, linear programming, queueing and inventory models, network analysis and dynamic programming, and production scheduling and control.

404 Analysis of Information Systems (3)
Prerequisite: Management Science 300 or equivalent. Software feasibility studies; information processing systems; data processing project organization; cost effectiveness and system optimization, hardware/software selection; structured systems design; case studies and computer projects.

408 Data Base Management Systems (3)
Prerequisite: Management Science 300 or equivalent. Integrated data base systems; logical organization; data description language (DDL); data manipulation language (DML); data independence; relational data bases; comparative analysis of hierarchical, network, and relational data bases; overview of selected data base management systems (DBMS).

409 Distributed Data Processing (3)
Prerequisite: Management Science 300. Hardware and software developments in transmission technology; distributed data bases; network architectures; ISO layered models; interface problems; distributed network design and cost analysis; network topology and protocols, tradeoffs among distributed and centralized processing systems, interface problems and case studies.

411 Data Processing with Small Computers (3)
Prerequisites: Management Science 300. Small computer technology in data processing; selecting and designing business oriented small computer systems; implementing, maintaining, supporting and evaluating these systems.

416. Computer Performance Evaluation (3)
(Same as Computer Science 416)

418 Privacy, Security and Data Processing (3)
Prerequisite: Management Science 300. Security and privacy problems associated with the use of computer systems; ways to minimize risks and losses.

420 Applied Statistical Forecasting (3)
Prerequisites: Management Science 361 or Math 230. Statistical methods applied to problems in business and industry; practical multiple regression models with computer solutions; basic techniques in time-series analysis of trend, cyclical and seasonal components; correlation of time-series and forecasting with the computer.

422 Surveys and Sampling Design and Applications (3)
Prerequisite: Management Science 361 or Math 230. Principles for designing business and economic surveys. Applications in accounting, marketing research, economic statistics and the social sciences. Sampling: simple random, stratified and multistage design; construction of sampling frames; detecting and controlling non-sampling errors.

430 Nonparametric Statistics (3)
Prerequisite: Management Science 361 or Math 230. Nonparametric statistical methods and problems in business and economics. Sign tests, rank correlation, contingency tables, order statistics, runs.

448 Computer Simulation in Business and Economics (3)
Prerequisites: Management Science 264 (or equivalent) and either Management Science 361 or Math 435 or Engineering 423. Computer generation of discrete and continuous random variables, their use in computer simulation. Applications include queueing, communications, computer systems, economics, gaming, inventory, scheduling and other management science topics.

461 Advanced Statistics (3)
Prerequisites: both Math 150B and Management Science 361 (or Math 335 or Engineering 423). The theory and application of the topics covered in Management Science 361, using calculus. Moments, generating functions, point and interval estimation, Neyman-Pearson and Likelihood Ratio Hypothesis Tests.

465 Linear Programming (3)
Prerequisite: Management Science 362 or 363, or *both* Math 281 (or 291) *and* Computer Science 112 (or equivalent). Theory and applications of linear programming and extensions. Problem formulation and solution, simplex method, duality, sensitivity analyses, network, transportation and assignment models, and efficient computing techniques for specially structured problems.

466 Mathematical Programming (3)
Prerequisites: Management Science 465 (may be taken concurrently) or consent of instructor. Nonlinear, integer and dynamic programming. Unconstrained and constrained non-linear optimization, branch and bound techniques, cutting plane algorithms, and dynamic programming.

467 Statistical Quality Control (3)
Prerequisite: Management Science 361 or Math 230. Control charts for variables, percent defective, and defects. Tolerances, process capacity, special control charts, acceptance sampling, and batch processing problems. Bayesian aspects of process control.

468 Design of Experiments (3)
Prerequisite: Management Science 361 or Engineering 205 and Math 230. Experimental design. Analysis of variance, factorial experiments, nested designs, confounding and factorial replications.

475 Multivariate Analysis (3)
Prerequisite: Management Science 461 or equivalent. The least squares principle; estimation and hypothesis testing in linear regression; multiple and curvilinear regression models; discriminant analysis; principal components analysis; application of multivariate analysis in business and industry.

480 Inventory and Production Analysis in Business and Economics (3)
Prerequisite: Management Science 361 and either 362 or 363. Inventory and production models (deterministic and probablistic). Optimal policy forms and efficient computational methods. The specification and control of standards in equipment, jobs, products, and processes.

490 Queueing and Other Probability Models in Business and Economics (3)
Prerequisite: Management Science 362 (or 363) *and* 361. Single and multichannel queueing systems of Markovian and general arrival and departure streams; birth-death processes, cost models and optimization of queues; Markov analyses; introduction to renewal theory; reliability.

495 Internship (1–3)
Prerequisites: Management Science 361 and 362, (or 363) and major in management science, or Management Science 300 and major in Management Information Systems, consent of department internship adviser, and at least junior standing, 2.5 GPA and one semester in residence at the university. Planned and supervised work experience. May be repeated for credit up to a total of six units. Credit/No Credit grading only.

499 Independent Study (1–3)
Prerequisites: Management Science 361 and either 362 or 363, senior standing, and approval by the department chair. Open to qualified students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

512 Management Science Techniques for Business and Economics, A (3)
Prerequisites: Math 130 and Management Science 264 (or equivalents), classified SBAE status. Probability and decision analysis; linear programming; inventory; PERT/CPM; queueing; simulation, computer application and other optional topics.

513 Management Science Techniques for Business and Economics, B (3)
Prerequisites: Management Science 512 or equivalent and classified SBAE status. Descriptive statistics; sampling techniques; estimation and hypothesis testing; simple and multiple regression; correlation analysis; non-parametric statistics; forecasting; time series; analysis of variance; computer packages and other optional topics.

526 Decision Analysis (3)
Prerequisites: Management Science 513 and classified SBAE status. Techniques from probability, statistical decision theory, and computer simulation applied to problems of decisionmaking under uncertainty, applications related to managerial decisions.

560 Operations Research (3)
Prerequisites: Management Science 513 or equivalent and classified SBAE status. Optimization of discrete and continuous models, duality, sensitivity analysis, dynamic and mathematical programming, probablistic models such as queueing, scheduling and inventory models, Markov analysis; computer applications.

565 File Management and Information Systems (3)
Prerequisite: Management Science 300 or consent of instructor. Real-time computer-based information systems in industry and government.

570 Seminar in Management Science (3)
Prerequisites: Management Science 526 and 560 and classified SBAE status. Selected advanced topics and/or case studies in operations research, statistics, and/or management information systems, varying from semester to semester. May be repeated for credit with consent of instructor.

576 Business Modeling and Simulation (3)
Prerequisite: Management Science 513 or equivalent. Theory and application of modeling and simulation methodology. Probabilistic concepts in simulation; arrival pattern and service times; simulation languages and programming techniques; analysis of output; business applications.

597 Project (3)
Prerequisite: classified SBAE status. Directed independent inquiry. Not open to students on academic probation.

599 Independent Graduate Research (1–3)
Prerequisites: classified SBAE status and consent of department chair. May be repeated for credit. Not open to students on academic probation.

MARKETING COURSES

351 Principles of Marketing (3)
Prerequisite: Economics 200. How management markets output of the enterprise and obtains revenue. Product management, pricing, promotion, distribution channels. Marketing's role in socio-economic system from viewpoints of consumer, management, social responsibility and government in American and worldwide business.

352 Principles of Retailing (3)
Prerequisite: Marketing 351. Structure, scope, and evolution of retail institutions; retail merchandise management and pricing; dimensions of retail competition: identifying markets, defining the retail mix and positioning the mix components to convey meaning.

353 Marketing Administration (3)
Prerequisite: Marketing 351. Problems facing the marketing executive, including organization, planning, and forecasting, market analysis, budgeting, product policy, pricing, advertising and sales promotion, administration of the sales force.

354 Principles of Advertising (3)
Prerequisite: Marketing 351. The management of the advertising function; the role of advertising in marketing strategy, budgetary considerations, allocation among media, measurement of effectiveness, administration and control, and its economic and social implications. Uses the Behavioral Lab.

356 Professional Selling (3)
Prerequisite: Marketing 351. Salesmanship as an interpersonal influence process. Selling using principles of human behavior. Selling skills and techniques. Uses the behavioral lab.

358 Physical Distribution (3)
Prerequisites: Marketing 351 and Management Science 265. The physical distribution system and its elements—packaging, transportation, warehousing and inventory management. Physical distribution practices and problems leading to improved system design and effectiveness.

359 Industrial Marketing (3)
Prerequisite: Marketing 351. Marketing of business goods and services to other businesses, government agencies, and social institutions by the manufacturer. Market analysis, sales forecasting, product strategy, effective use of sales force, and industrial advertising media.

370 Consumer Behavior (3)
Prerequisite: Marketing 351. Consumer buying patterns, motivation and search behavior. The consumer decision-making process. Interdisciplinary concepts from economics, sociology, psychology, cultural anthropology and mass communications. Case analyses and research projects.

379 Marketing Research Methods (3)
Prerequisites: Marketing 351 and Management Science 361 and a passing score on the Statistics Proficiency Examination (administered by the Marketing Department). Marketing research process: problem formulation, identifying data sources, selecting data collection and analysis techniques, preparing research reports. Selecting marketing problems for research. Lecture-discussion, cases. (3 hours lecture, 1 hour activity)

452 Advanced Salesmanship (3)
Prerequisites: Marketing 351 and 356. Negotiation style selling techniques; videotape, audio-tape, structured and unstructured role plays. Sales writing skills. Field case studies.

454 Advertising Management (3)
Prerequisite: Marketing 354. The interrelationships of product planning, advertising management, sales management, financial management and corporate strategy in a competitive environment.

455 Management of the Sales Force (3)
Prerequisite: Marketing 351. The sales manager in organization; recruiting and selecting salesmen; sales training; formulating compensation and expense plans; supervising and stimulating sales activities; morale; sales planning; evaluating salesmen; and distribution cost analysis. Uses the Behavioral Lab.

456 Retailing Management (3)
Prerequisite: Marketing 352. Merchandise management, planning and control; market structures, entrepreneurial function and competitive strategies (price and non-price competition); the dynamic consumer goods segment and correlates of store patronage: socioeconomic implications, psychographics, changing life styles, and product risk; atmospherics fashion perspectives; and trends in the retail sector—a macroeconomic view.

457 Quantitative Marketing Analysis (3)
Prerequisites: Marketing 351, Management Science 361 or consent of instructor. Marketing-management functions; scheduling, evaluating, control. The analysis of marketing processes and systems and the development of appropriate action recommendations.

458 International Marketing (3)
Prerequisites: Marketing 351 and senior standing. Domestic marketing systems. Marketing problems across national boundaries and within national markets. U.S. firms involved in international marketing operations.

459 Marketing Problems (3)
Prerequisites: senior standing, two advanced marketing courses. Marketing problems of firm and society. Integrative interactions between marketing activities and the interfaces of marketing with finance and production. Case method and current readings.

479 Research Problems in Marketing (3)
Prerequisite: Marketing 379. Marketing research practicum. Matching research methodologies to problems of market analysis, product planning, advertising, sales forecasting and other marketing activities. Alternative data collection and analysis techniques. Seminars, research projects. (3 hours lecture, 1 hour activity)

495 Internship (1–3 units)
Prerequisites: six units of upper division marketing courses, including Marketing 351, major in marketing, consent of department internship adviser, and at least junior standing, 2.5 GPA and one semester in residence at the university. Planned and supervised work experience. May be repeated for credit up to a total of six units. Credit/No Credit only.

499 Independent Study (1-3)
Prerequisites: marketing concentration, senior standing, and approval by the department chair. Open to undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit. Not open to students on academic probation.

519 Marketing Management (3)
Prerequisites: Accounting 510, Economics 514, Management Science 512, 513, Management 516, 518 (may be taken concurrently) and classified SBAE status. Concepts, principles and techniques used in the administration of the marketing variables. The role of marketing within the context of society and the business firm, social responsibility of business and international marketing.

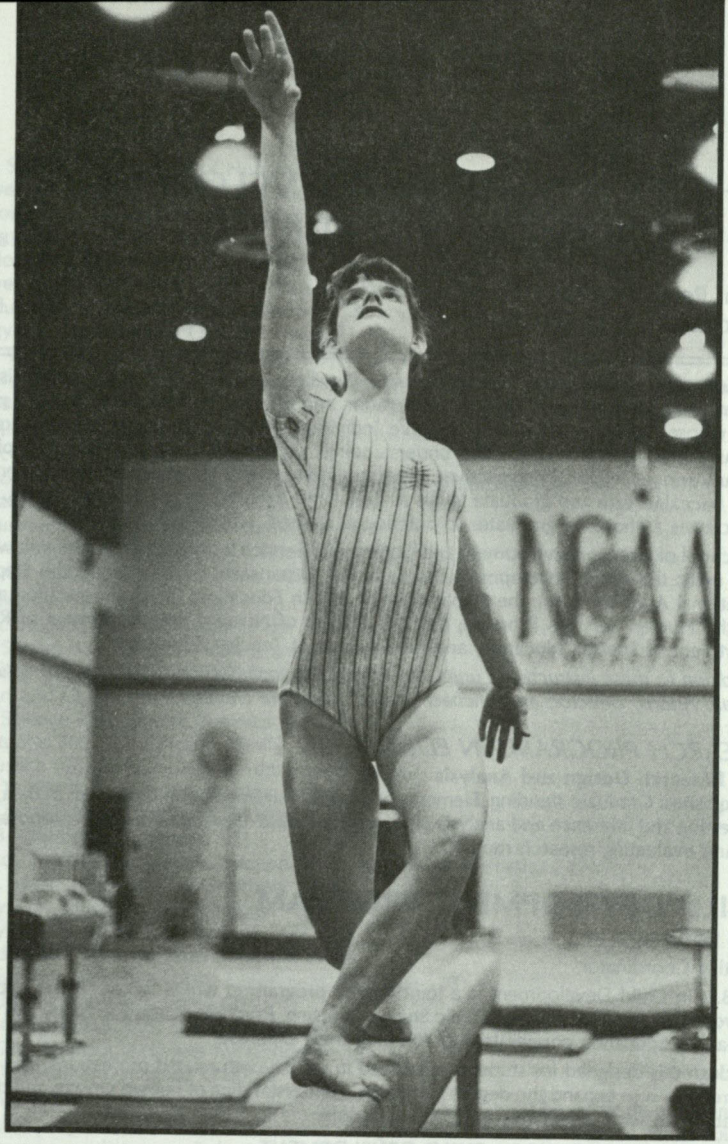
525 Seminar in Marketing Problems (3)
Prerequisites: Marketing 519 and classified SBAE status. Major marketing problems facing industry: definition of and organization for marketing task; demand analysis; decisions concerning product, price, promotion, and trade channels. Use of case method and readings.

554 Seminar in Promotion (3)
Prerequisites: Marketing 525 and classified SBAE status. The promotion mix as employed by businesses to optimize profitable operations. Determination of promotional goals, planning, budgeting, controlling promotional programs, and measuring promotional effectiveness.

558 Seminar in International Marketing (3)
Prerequisites: Marketing 519 or equivalent and classified SBAE status. Comparative international marketing systems; managerial techniques and strategies in multinational and domestic firms engaged in export; and the impact of political, legal, social, economic and cultural forces upon the decision-making process.

597 Project (3)
Prerequisite: classified SBAE status. Directed independent inquiry. Not open to students on academic probation.

599 Independent Graduate Research (1–3)
Prerequisites: classified SBAE status, consent of instructor and approval by department chair. May be repeated for credit. Not open to students on academic probation.



HUMAN DEVELOPMENT AND COMMUNITY SERVICE

SCHOOL OF HUMAN DEVELOPMENT AND COMMUNITY SERVICE

Dean: Peter Facione
Associate Dean: Judith Ramirez

The curricular mission of the School of Human Development and Community Service is to provide students sound and relevant academic education and preparation for a wide range of professional fields whose common purpose is to serve individual and community needs. The school offers programs which combine theoretical understandings with practical skills and which emphasize both scholarly and professional perspectives. Programs in the school lead to traditional academic degrees at the baccalaureate and graduate levels as well as to a variety of specific certificates, credentials and licenses authorizing graduates to practice as trained, scholarly professionals.

The School of Human Development and Community Service is organized into the following instructional units: the Child Development Program; the Department of Counseling; the Department of Educational Administration; the Department of Health Education, Physical Education and Recreation; the Human Services Program; the Department of Nursing; the Department of Reading; the Department of Special Education; and the Division of Teacher Education.

In addition to these instructional units, the school also includes the University Recreation Program (Ronald Andris, Director; and Michael Uraine, Associate Director).

RESEARCH PROGRAMS IN EDUCATION

510 Research Design and Analysis (3)

Prerequisites: Graduate standing. Elements of design, instrumentation, treatment of data, hypothesis testing and inference and analysis of educational data. Develop a research proposal. Analyzing and evaluating research reports.

CHILD DEVELOPMENT PROGRAM

Carol Barnes
Acting Coordinator

The B.S. in Child Development is a joint degree program in which faculty in the departments of Anthropology, Biology, English, Ethnic Studies, Nursing, Psychology and Sociology and the Division of Teacher Education cooperate and combine their expertise.

This degree is designed for students interested in child/youth related professions. The objective of the program is to expand the degree candidate's understanding of human growth and development and ability to work effectively with young people.

BACHELOR OF SCIENCE IN CHILD DEVELOPMENT

The major in child development requires the successful completion of a minimum of 50 upper-division units which satisfy the pattern indicated below. Through appropriate selection of elective courses by the student and adviser a program is designed to enhance the student's background and interests and to form a coherent academic experience. Students are strongly encouraged to enroll in upper-division courses in public speaking and are required to demonstrate upper-division writing competence. Each course counted for the major must be completed with a grade of C or higher.

Many upper-division courses require prerequisites. It is the student's responsibility to become familiar with all appropriate campus regulations and degree requirements.

Required (Either of the following):
Child Development 312, Human Growth and Development (Same as Ed-TE 312) (3)
Psychology 361, Developmental Psychology (3)

Required (Minimum of 6 units selected from the following):
Child Development 385, Infancy and Early Childhood (Same as Ed-TE 385) (3)
Child Development 390, Middle Childhood (Same as Ed-TE 390) (3)
Child Development 386, Adolescence (Same as Ed-TE 386) (3)

Required (Each of the following courses—minimum of 20 units):
Biological Science 314, Ethics and Genetics (1)

Biological Science 360, Biology of Human Sexuality (1)
Child Development 391, Practicum in Child Development (3) *or*
Education TE 310, The Teaching Experience: Participation (3) *or*
Sociology 400, Sociology Internships (3) *or*
Psychology 495, Internship in Psychology (3)
Child Development 496, Senior Seminar in Child Development (3)
Special Education 371, Exceptional Individual (3)
Psychology 463, Experimental Child Psychology (3)
Sociology 453, Child in American Society (3)
English 301, Advanced College Writing (meets course work portion of upper-division writing requirement (3)

Required (Minimum of 6 units selected from the following):
Afro-ethnic Studies 309, Black Family (3)
Anthropology 415, Culture and Personality: Psychological Anthropology (3)
Chicano Studies 431, Chicano Child (3)
Criminal Justice 330, Crime and Delinquency (3)
Sociology 413, Juvenile Delinquency (3)
Sociology 451, Sociology of the Family (3)

Required (Minimum of 9 units—select from the following):
Afro-Ethnic Studies 422, Psychology of the Afro-American (3)
American Studies 301, The American Character (3)
Anthropology 450, Culture and Education (3)
Art 380, Art and Child Development (3)
Biological Science 313, Human Genetics (3)
Chicano Studies 305, The Chicano Family (3)
Criminal Justice 425, Juvenile Justice Administration (3)
Education-TE 406, Educational Sociology (3)
Education-TE 437, Early Childhood Education (3)
English 433, Children's Literature (3)
Mathematics 303A, Fundamental Concepts of Elementary Mathematics (3)
Music 333, Music and Child Development (3)
Psychology 311, Educational Psychology (3)
Psychology 470, Behavior Modification (3)
Physical Education 372, Movement and the Child (3)
Science Education 310, Elementary Experimental Science (3)
Sociology 341, Social Interaction (3)
Speech Communication 403, Speech/Language Development (3)
Theatre 402A, Dramatic Activities for Children (3)
Theatre 471, Creative Dance for Children (3)

Required 6 units of electives selected with approval of adviser. Units must be upper division, unless prior approval of program coordinator is obtained. Electives must be for a letter grade unless course is offered only on a credit/no credit basis.

Note: No more than nine units of practicum/internship shall be applied to the child development major. In addition the student shall not be granted credit in the major for more than six units in any one practicum/internship. Each three units of practicum/internship must average at least eight hours per week in the field setting. All practicum/internships must have the prior approval of the child development coordinator or designee.

MULTIPLE SUBJECT CREDENTIAL WAIVER PROGRAM

A carefully selected sequence of courses taken in conjunction with the child development major has been approved by the State of California as a waiver for the Commons portion of the National Teachers' Examination. *One* requirement for a Multiple Subjects (Elementary) Teaching Credential is completion of a waiver program *or* passing scores on the (NTE) Commons Examination. Contact the Credential Preparation Center for further information.

CHILD DEVELOPMENT COURSES

312 Human Growth and Development (3)
(Same as Ed-TE 312)

385 Infancy and Early Childhood (3)
(Same as Ed-TE 385)

386 Adolescence (3)
(Same as Ed-TE 386)

390 Middle Childhood (3)
Prerequisite: Psychology 361 or Ed-TE 312, or equivalent. Physical growth, personality development and social participation during middle childhood. Patterns of cognitive growth and emotional adjustment. (Same as Ed-TE 390)

391 Practicum in Child Development (3)
Prerequisites: completion of Child Development/Ed-TE 312 or Psychology 361. Supervised experience with children or adolescents in community settings. Seminar and field placement. Nine units maximum for the major. Six units maximum credit in any one practicum. At least eight hours/week in the field required for each three units.

496 Senior Seminar in Child Development (3)
Prerequisites: completion of Child Development/Ed-TE 312 or Psychology 361 and two of the following: Ed-TE/Child Development 385, Ed-TE/Child Development 386 or Child Development 390. Topics in child development selected by the faculty and students participating in course. Theory, methodology and findings.

DEPARTMENT OF COUNSELING

FACULTY
Michael Parker
Department Chair
Keith Golay, Patricia Hannigan, Lisa Hoshmand

MASTER OF SCIENCE IN COUNSELING

See "Graduate Programs."

The counseling program is designed to equip graduates with counseling skills which will make them highly effective practitioners in enforcement, correctional, educational and health care institutions.

The program has a competency base. Degrees, certificates and credentials are granted when the candidate has demonstrated a sufficient repertoire at sufficient proficiency, each competency separately observed and certified by faculty (though credits are given by courses).

CREDENTIALS

Counseling Credential

Employment as a counselor or psychologist by a school district requires a credential issued by the State Commission for Teacher Preparation and Licensing. The university's counseling program is authorized by law (Ryan Act) to offer these credentials. Prerequisites for the *counseling credential* objective are:

1. Possession of the M.S. in Counseling or its equivalent;
2. 4 level ratings in all competencies listed for the M.S. degree and the Pupil Personnel Services Credential.
3. Passage of the California Basic Education Skills Test (if not previously taken).

Upon applying for and receiving the credential objective the student becomes eligible for supervised fieldwork (Counseling 581 and 582). Upon satisfactory completion of two semesters of fieldwork, together with advanced courses, the student is eligible for the counselor credential.

Counseling Credential Courses

The Counseling Department has credential programs in pupil personnel services (school counseling) and school psychology approved by the California Commission for Teacher Preparation and Licensing (CTPL). Because the state requirements are currently being revised, students are advised to consult with a faculty adviser for current information and requirements.

Students seeking California Marriage and Family Licensure should contact the Board of Behavioral Science Examiners for the requirements and consult their department adviser concerning the curricular content areas that meet BBSE requirements.

COUNSELING COURSES

252 Career Exploration and Life Planning (3)
Exploration of personal career potentials, employment trends, decision-making, goal-setting, and job search methods.

316 Group Process and Membership (3)
Prerequisite: consent of instructor. Survey of the variety of counseling group experiences.

317 Special Group Experiences (3)
Prerequisite: consent of instructor. Theory of groups.

380 Theories and Techniques of Counseling (3)
(Same as Human Services 380)

452 Exploration in Self Concepts: Temperament and Character (3)
Temperament and its relationship to career, marriage and parenting.

480 Case Analysis and Intervention Techniques (3)
(Same as Human Services 480)

490 Standard Counseling Models (3)
Prerequisites: upper division standing and consent of instructor. Analysis of the standard counseling models including their procedures, outcomes, rationale and ostensible utility in treating abnormal or deviant behavior.

511 Counseling Casework (3)
Prerequisite: admission to M.S. in Counseling program and consent of instructor. Introduction to intervention methods.

512 Counseling Procedures (3)
Prerequisites: Counseling 511 and consent of instructor. More advanced intervention methods. May be repeated for credit.

513 Counseling Procedures Assessment Seminar (3)
Prerequisites: Counseling 511, 512, 531, 521 (or concurrent) and consent of instructor. Standard treatment models.

514 Group Leadership (3)
Prerequisites: Counseling 513 (or concurrent) and consent of instructor. Group treatment usable with unrelated groups in educational, enforcement, correctional and health care agencies. May be repeated for credit.

515 Paradox Counseling Procedures (3)
Prerequisites: Counseling 513, 514 and instructor consent. The double bind methods of Milton Erickson and the paradoxical uses of standard treatment methods.

516 Conjoint Counseling Procedures (3)
Prerequisites: Counseling 514 and consent of instructor. Applications of the Interdiction Model of Milton Erickson and Jay Haley and others to related groups. May be repeated for credit.

521 Research in Counseling (3)
Prerequisite: admission to M.S. in Counseling program or consent of instructor. Methods of controlled inquiry in counseling.

522 Detection Procedure: Formal Experiments (3)
Prerequisites: Counseling 521 and consent of instructor. The phenomenology of test, inventory, and interview methods and their reporting. Must be taken concurrently or prior to fieldwork or internship. May be repeated for credit.

523 Detection Procedure: Ability Tests (3)
Prerequisites: Admission to school psychology credential program and consent of instructor. Applications of Stanford-Binet and Wechsler experiments in the detection of client resources and disturbances of thought and mood. May be repeated for credit.

524. Detection Procedure: Projective Tests (3)
Prerequisites: admission to the school psychology credential program and consent of instructor. Application of "T.A.T.," "Family Drawings," "Draw-A-Man," "House-Tree-Person," Bender-Gestalt, and Sentence Completion experiments in detecting client resources and disturbances of mood and thought. May be repeated for credit.

525 Personality Study: Advanced Issues (3)
Prerequisites: Counseling 523, 524, and consent of instructor. Application of metric and projective detection theory to the understanding of mentation and personality and their application in school settings.

531 Pathology: Comparative Etiology (3)
Prerequisite: admission to M.S. in Counseling program or consent of instructor. The spectrum of abnormal behaviors and experiences of clients of varying age, sex, culture and ethnicity. May be repeated for credit.

532 Child and Family Dysfunction (3)
Prerequisites: Counseling 521 and 531 and consent of instructor. The management of guidance programs in child maldevelopment, family and school dysfunctions, including child welfare laws. May be repeated for credit.

533 Career and Occupational Guidance (3)
Prerequisites: Counseling 532 and consent of instructor. Consultation with individuals and organizations to prevent mismatch of individuals and their opportunities, and mismatch of organization means and goals. Special focus upon institutional iatrogenics. Career guidance background recommended. May be repeated for credit.

534 Sexual Dysfunction (3)
Prerequisites: Counseling 532 and consent of instructor. Phenomenology, nosology, demography, etiology, prognostics, treatment strategies, and bibliography of sexual disturbance. May be repeated for credit.

535 Pathology: Disorders of Thought and Language (3)
Prerequisites: Counseling 532 and consent of instructor. Phenomenology, etiology, demography, and bibliography of "catatonic," "hebephrenic," "epileptic," "paranoid," "obsessive," "compulsive," "phobic," and "aphasic" clients. May be repeated for credit.

536 Pathology: Affective and Psychosomatic Disorders (3)
Prerequisites: Counseling 532 and consent of instructor. Phenomenology, etiology, demography, and bibliography of "addicts," "defilers," "deprivers," "derelicts," "hypochondriacs," "neurasthenics," "anxietics," and "melancholics." May be repeated for credit.

581 Fieldwork (3)
Prerequisites: approval by Academic Review Board and admission to counseling credential program. Supervised practice in helping troubled clients in a public school setting. A weekly casework consultation seminar. Required for counseling credential. May be repeated for credit.

582 Advanced Fieldwork (3)
Prerequisites: successful completion of Counseling 581 and approval by the Academic Review Board. Supervised practice in helping troubled clients in educational, and related settings. Weekly casework consultation seminar. Required for counseling credential. May be repeated for credit.

583 Internship in School Psychology (3)
Prerequisites: Counseling 515, 523, admission to school psychology credential program and approval by Academic Review Board. Supervised practice in helping troubled clients in a public school setting. Weekly casework consultation seminar. Required for school psychology credential. May be repeated for credit.

584 Internship (3)
Prerequisites: Counseling 516, and approval by Academic Review Board. Supervised practice in helping troubled clients in educational, enforcement, correctional, and/or health care agencies. Weekly casework consultation seminar. May be repeated for credit.

595 Competency Certification Seminar (1–3)
Prerequisite: approval by Academic Review Board. Candidates present written, live, videotape, or audiotape samples to the Board of Professional Supervisors, to acquire exit skill ratings on the competencies required. May be repeated for credit.

597 Project (1–3)
Prerequisite: consent of instructor. Student invents and devises a tool, instrument, or technique and reports. May be repeated for credit.

598 Thesis (1–3)
Prerequisite: consent of instructor. Writing of a thesis. May be repeated for credit.

599 Independent Research (1–3)
Prerequisite: consent of instructor. Research and development in counseling pursued independently with periodic conference with instructor. May be repeated for credit.

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

FACULTY

Kenneth Preble
Department Chair

Edward Beaubier, Walter Beckman, William Callison, Tracy Gaffey, Stanley Rothstein

MASTER OF SCIENCE IN EDUCATION

See "Graduate Programs."

INTERNSHIP IN EDUCATIONAL ADMINISTRATION

The Department of Educational Administration has a program for Interns in Educational Administration which is approved by the California Commission for Teacher Preparation and Licensing. Because state regulations governing this program were under review at the time of this publication, students should contact the department office for current information and requirements.

ADMINISTRATIVE SERVICES CREDENTIAL PROGRAM

The Administrative Services Credential program of the Department of Educational Administration is approved by the Commission for Teacher Preparation and Licensing. Because state regulations governing this program were under review at the time of this publication, students should contact the department office for current information and requirements.

EDUCATIONAL ADMINISTRATION COURSES

503 Foundations for Administrative Leadership (3)
Prerequisite: consent of instructor. Cultures and values to which schools must contribute. Community sociology, tax systems and public administration; the literature of leadership. Screening for admission to program. Required of all students during their first registration in school administration.

505 The Supervision of Curriculum (3)
Prerequisite: Ed Adm 566 or 586. Development of a quality program of instruction in elementary and secondary schools; appraisal of programs of instruction; advanced principles of curricular review and modification. Evaluation of subject matter competence in supervisory specialization.

560 Contemporary Problems in School Administration (3)
Contemporary problems in school organization and administration including collective bargaining, finance, staff and school integration, declining enrollment, pupil achievement and affirmative action.

561 Governance, Systems, School and Community (3)
Structure, functions, trends, fiscal responsibilities and issues in the government of education at federal, state, county and local school district levels. School organization and administration. Community involvement; school-community participation and communication.

563 School Personnel Administration (2)
Prerequisite: Ed Adm 503 or concurrent enrollment. School personnel management, collective negotiations, and role definition.

564 Seminar in School Law (2)
Prerequisite: consent of instructor. School law as a reflection of public policy. California Education Code and the California Administrative Code, Title 5, and county counsel opinions: administration, instruction, and financial management of public schools, legal basis for public education in California.

565 Seminar in School Finance, Business Administration and Buildings (2)
Prerequisite: consent of instructor. School finance, business administration and buildings and the effective educational program. Financial principles. School revenues and expenditures, budgetary procedures and processes, cost analysis, business management and salary policies.

566 Elementary Administration and Supervision (3)
Prerequisites: Ed Adm 561 and 563. Leadership roles of elementary school principal and supervisor. Pupil personnel and instructional program in elementary school; working relations and morale among staff, community and pupils; parent education; relations with central district staff; management and recordkeeping functions; teacher evaluation.

567A,B Fieldwork and Project (2,2)
Prerequisites: Ed Adm 566 or 586 and 510. Fieldwork and project or thesis, as required for Master's degree. Directed fieldwork in administrative areas in school systems. Supervised Master's Project or Thesis required in problem or area approved by the instructor. (May be repeated for credit.)

586 Secondary Administration and Supervision (3)
Prerequisites: Ed Adm 561 and 563. Leadership roles of the secondary school principal and supervisor, pupil personnel and instructional program in secondary schools; development and administration of vocational education; morale among staff, community and pupils; relations with central district staff; management functions; teacher evaluation.

588 Organization Theory and Management (3)
Public school management; planning and practice in task analysis; planning and practice in setting of goals and objectives; implementation of plans related to goals; management tools; social, political and economic forces affecting education; decision making.

593 Administration of Mainstreaming (2)
The role of the administrator in providing educational programs for exceptional pupils in environments that maximize contact with non-exceptional pupils. Emphasis will be placed on the implementation of the legislative mandates of Public Law 94-142, the Education for All Handicapped Children Act, and Assembly Bill 1250.

599 Independent Graduate Research (1–3)
Prerequisite: consent of instructor. Independent inquiry for qualified students.

DEPARTMENT OF HEALTH EDUCATION, PHYSICAL EDUCATION AND RECREATION

FACULTY

Eula Stovall
Department Chair

Gene Adams, C. Ian Bailey, Jean Barrett, Anne Marie Bird, M. William Fulton, Eric Hanauer, Alexander Omalev, Paul Pastor, Kenneth Ravizza, Roberta Rikli, Diane Ross, Virginia Scheel, Carol Weinmann, Ronald Witchey, Michael Yessis

The primary mission of the department is to advance and disseminate knowledges created through the study of human movement, of leisure needs and interests, and of total health which includes physical, mental, social and emotional dimensions. The secondary mission focuses on: (1) development of knowledges and skills essential for entry into a variety of occupations, (2) development of opportunities for participation in internships or cooperative education work experiences related to academic study, and (3) development of attitudes and behaviors appropriate for promotion and maintenance of personal and environmental health.

The study of human movement encompasses the mechanisms which influence and are significant to participation. These include philosophical, historical, sociological, psychological and biological factors. Environmental determinants, including the social context and movement structures in which activity occurs are considered.

MASTER OF SCIENCE IN PHYSICAL EDUCATION

See "Graduate Programs."

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

The Department of Health Education, Physical Education and Recreation offers the Bachelor of Science in Physical Education for students preparing to teach, to pursue graduate work in physical education and for careers in business, industry and government service. The degree consists of 124 units with a maximum of 12 lower-division units and a minimum of 33 upper-division units in physical education. Each course counted toward the major must be completed with a grade of C or higher. All courses counted toward the major must be taken on an option 1 (letter grade) basis.

Transfer students must request transcripts of records of all previous scholastic work from each university or college attended. These transcripts are in addition to those required for admission to the university and must be sent by the issuing institution directly to the chair, Department of Health Education, Physical Education and Recreation.

All transfer students must have transcripts evaluated by the department undergraduate adviser prior to registration.

MAJOR IN PHYSICAL EDUCATION

Lower Division (Maximum of 12 units)

Required Courses:

PE 260 Movement Anatomy 3 units (General human anatomy courses do not meet this requirement. However, such courses are highly recommended.)

A minimum of six courses, one from each of the following areas:

Fitness: PE 100, Physical Conditioning; 102, Jogging; 120, Gymnastics; 144, Exercise Weight Control; 146 Body Building; 147 Olympic Power Lifting.

Aquatics: PE 110, Swimming; 111, Life Saving; 112, Water Polo; 114, Skin Diving; 116, Springboard Diving; 214, Basic Scuba.

Combatives: PE 150, Wrestling; 151, Aikido; 152, Karate; 154, Self-Defense; 155, Fencing.

Individual Sports: PE 104, Horseback Riding; 105, Cycling; 106, Skiing; 107, Ice Figure Skating; 108, Roller Skating; 117, Bowling; 118, Archery; 119, Golf; 122, Sailing; 125, Rock Climbing; 246A, Basic Hatha Yoga.

Court/Racquet Sports: PE 130, Badminton; 131, Tennis; 132, Racquetball; 133, Handball.

Team Sports: PE 160, Baseball; 161, Softball; 164, Volleyball; 165, Soccer; 166, Team Handball; 167, Basketball.

(Intercollegiate sports course may be applied in the appropriate area.)

A maximum of 12 lower-division units may be counted toward completion of the major. However, students may elect to take upper-division work in lieu of further lower-division work excluding requirements stated above. All work taken at other institutions as lower-division work must be counted as such at Cal State Fullerton.

Upper Division (Minimum of 33 units)

***Required courses* (18 units):**

		Units
PE 300	Principles of Movement	3
PE 352	Physiology of Exercise (352L optional)	3
PE 371	Theory and Principles of Human Motor Learning (371L optional)	
or		3
PE 383	Psychological Aspects of Human Movement	
PE 380	History of Physical Education and Sport	
or		3
PE 382	Philosophical Perspectives of Human Movement	
PE 381	Human Movement in Cultural Perspective	
or		3
PE 384	Sport Sociology	
and three units selected from courses 371, 380, 381, 382, 383, 384 which have not been used to meet the above requirements.		3

***Electives:* (Minimum 15 units)**

Upper division physical education courses to complete the required 45 units for the major. To be selected under advisement. —

Total 45

TRACKS

The Department of Health Education, Physical Education and Recreation has identified 10 tracks which can help prepare students for careers in the field or for graduate study. These tracks are advisory only, but can be valuable in meeting academic and career objectives. Advisers' office hours for obtaining information on the various tracks are available in the department office. Students are encouraged to contact the adviser in the area of choice. Career opportunities are available in:

Elementary and Secondary Teaching
Coaching
Athletic Training
Physical Education for the Handicapped
Sports Careers
Humanities—Arts
Sports Medicine
Human Factors

Health
Recreation
Sport and Exercise Management

Proficiency Requirements for Major and Minor Students

Activity courses should be taken to meet the prerequisite requirements for any analysis series course. Proficiency screening tests are administered in the analysis classes at the beginning of the semester.

MINOR IN PHYSICAL EDUCATION

A physical education minor shall consist of 24 units of course work in physical education with a minimum of 18 upper-division units. Course work must be completed with a grade of C or higher. All courses counted toward the minor must be taken on an option 1 basis.

Required Courses:	*Units*
PE 260 Movement Anatomy	3
PE 300 Principles of Movement	3
PE 352 Physiology of Exercise	3
PE 371 Theory and Principles of Human Motor Learning	
or	3
PE 383 Psychological Aspects of Human Movement	
PE 381 Human Movement in Cultural Perspective	
or	3
PE 384 Sport Sociology	
PE 380 History of Physical Education and Sport	
or	3
PE 382 Philosophical Perspectives of Human Movement	
Electives:	
A maximum of 3 units lower-division electives (100- and 200-level courses)	3
A minimum of 3 units upper-division electives (300- and 400-level courses)	3
Total	24

REQUIREMENTS FOR PHYSICAL EDUCATION MAJORS SEEKING A TEACHING CREDENTIAL

The university program for meeting the *basic* requirements for the teaching credential with a specialization in physical education (K–12) can be found elsewhere in this catalog (see School of Human Development and Community Service, Division of Teacher Education). Additional requirements of the Department of Health Education, Physical Education and Recreation are as follows:

1. **Advisement**
   For the credential program see the teacher education adviser in physical education two to three semesters before making formal application. This will help students to evaluate qualifications and to plan appropriate course work.
2. **Required Course Work**
   In addition to, or as part of, the requirements for a major in physical education all candidates for the credential must complete the following with a minimum of a C grade:
   PE 300 Principles of Movement
   PE 340 Contemporary Movement Environments
   PE 349 Measurement and Evaluation in Physical Education
   PE 371 Theory and Principles of Human Motor Learning
   Minimum of two analysis classes and one technique of coaching class.
3. **Completion of the Approved Waiver Program**
   All candidates for the credential must adequately demonstrate competency in subject matter scope and content of physical education. The major areas of emphasis identified by the Physical Education Advisory Panel of the Commission for Teacher Preparation and Licensing include: (1) biological foundations, (2) sociological foundations, (3) psychological foundations, (4) historical-philosophical foundations, (5) evaluation and measurement, (6) health and safety concepts relating to physical activity and (7) instructional subject matter.
   Copy of the waiver can be obtained from the teacher education adviser in physical education.

4. **Instructional Subject Matter of Physical Education**
   Students seeking a credential with a specialization in physical education from this institution must be able to demonstrate competency in instructional subject matter which is a part of the *regular* physical education program of the public schools. The Department of Health Education, Physical Education and Recreation specifically requires the following:
   a. Ability to perform and analyze basic movement skills common to a large number of instructional physical activities.
   b. Adequate background and preparation to demonstrate breadth of understanding of the scope and content of physical education.
   c. Strong background and preparation in a *minimum of six* designated areas of physical education to demonstrate "in-depth" understanding and ability to apply understandings to the teaching learning situation. At present the areas identified by the Teacher Education Advisory Council of the Physical Education Department include: (1) team sports, (2) individual sports, (3) dual sports, (4) dance, (5) aquatics, (6) recreational (must be instructional in nature), (7) athletic training, (8) adaptives.

   Note: Students are urged to consult with the teacher education adviser of the department before submitting documents required for establishing subject matter competency.

5. **Experiences**
   Students are expected to have been involved in several leadership experiences prior to formal application. These experiences could be in coaching, recreation, camping, youth leagues, and aiding in public school physical education classes. These experiences can be self-designed or designed through PE 496 (off-campus teacher aides), and PE 396 (on-campus teacher aides).

6. **Admission to Teacher Education**
   In addition to the requirements set forth elsewhere in this catalog, the Department of Physical Education requires candidates to submit to an extensive review of qualifications for teaching. This review includes additional written documentation, and a personal evaluation by a select faculty committee.
   Acceptance into the program allows the candidate to enroll in a two semester sequence:
   First semester: Ed-TE 440F, Ed-TE 440S, Ed-TE 440R (optional), PE 442.
   Second semester: PE 449A,B

SPECIAL ADAPTED PHYSICAL EDUCATION EMPHASIS CREDENTIAL

Cal State Fullerton has been granted approval to offer an Adapted Physical Education Emphasis Credential as an *addition* to a Single Subject Physical Education Credential.

Specific requirements for the emphasis credential include completion of:

PE 260 Movement Anatomy
PE 363 Developmental Adaptations of Atypical
PE 364 Motor Development
PE 383 Psychological Aspects of Human Movement
PE 473 Motor Impairment in Children
One approved 3-unit upper division course

The Adapted Physical Education Emphasis Credential may be obtained only in conjunction with (or in addition to) a Single Subject Physical Education Credential.

ATHLETIC TRAINING CERTIFICATION

Athletic Training Certification accredited by the National Athletic Trainers' Association must be earned in conjunction with a major in physical education. Upon successful completion of the specific requirements listed below, the student must apply through the department to the National Athletic Trainers' Association for the certification examination.

1. A bachelor's degree with a major in physical education with a GPA of at least 2.5 overall; 3.0 in the major; and 2.5 in biological science.
2. CPR card (yearly) and current first aid card.
3. The following specific course work (or equivalence):
   Biol 361, Human Anatomy, or PE 260, Movement Anatomy
   Biol 362, Human Physiology
   PE 352, Physiology of Exercise
   PE 300, Principles of Movement
   Physics 211A, Elementary Physics, or Chemistry 100, Introductory Chemistry
   PE 383, Psychological Aspects of Human Movement

PE 371, Theory and Principles of Human Motor Learning
Health Education 102, Prevention and First Aid
Chemistry 111, Nutrition and Drugs
PE 363, Developmental Adaptations of Atypical
PE 451, Sports Medicine
PE 365, Prevention and Care of Athletic Injuries
PE 366, Advanced Prevention and Care of Athletic Injuries
Health Education 101, Personal Health
PE 496, Practicum (Clinical Training Internship: six semester units—800 clock hours)

5. Recommended in addition to the above:
Emergency Medical Training
Advanced First Aid (Health Education 203)
Principles of Conditioning (PE 351)
Drugs and Society (Health Education 321)

CORRECTIVE THERAPY AFFILIATION

Corrective therapy is the application of the principles, tools, techniques and psychology of medically oriented physical education to assist the physician in accomplishment of prescribed objectives. The course of study includes undergraduate and graduate programs in physical education. Certification requires the following subject areas (for specific courses contact the department office):

APPLIED SCIENCES: anatomy; kinesiology; physiology; physiology of exercise; neurology; pathology; growth and development; neuroanatomy.

HEALTH AND PHYSICAL EDUCATION: analysis of human movement; health education and problems; principles health-physical education; physical-mental habilitation; tests and measurements; evaluation health-physical education; research-health-physical education; skills-applied atypical; organization-administration corrective therapy; kinesiotherapy; recreation-rehabilitation; intertherapy relations evaluation and research applied to corrective and adapted programs.

PSYCHOLOGY: general psychology; abnormal psychology; physiology psychology; developmental psychology; mental health; psychotherapy; social psychology.

An overall GPA of 3.0 and a GPA of 3.0 in all courses taken in the above subject areas are required. All required courses must be completed prior to application for admittance to the internship at the Veterans Administration Hospital, Long Beach (1,000 hours are required in the one-year internship). Upon successful completion, the student must apply to the Corrective Therapy Association for examination to obtain certification. Certified Corrective Professionals operate with Veterans Hospitals throughout the United States.

MINOR IN HEALTH PROMOTION

The department offers a minor in health promotion consisting of 21 units, with a minimum of 12 upper-division units selected in consultation with the minor adviser. The minor in health promotion is offered within a conceptual framework of holism, and may be of interest to students preparing for careers in teaching and health care or helping professions, as well as to students with a personal interest in health enhancement.

Required Courses (12 units): *Units*

Chemistry 111 Nutrition and Drugs
or
Chemistry 480B Topics in Contemporary Chemistry
or
Approved nutrition course 3
Health Education 101 Personal Health
or
Health Education 321 Drugs and Society 3
Health Education 318 Principles of Holistic Health and Wellness 3
Health Education 410 Health Education for Teachers 3

Electives (9 units):

Students *may* elect to take (up to a maximum of 3 units) experiential courses which emphasize the application of basic health promotion principles in the student's own life: PE 100, 102, 103–169, 246A, 246B; Theatre 122, 126A, 126B, 132, 142, 162, 222, 232.

Students shall choose additional elective units, with approval of the minor adviser, from approved courses of specific relevance to health promotion (list available in department office) 9

Total 21

HEALTH EDUCATION COURSES

101 Personal Health (3)

Basic concepts relating to health and well being from a holistic perspective. Mental, emotional, physical and socio-environmental dimensions of health; sexuality and relationships; nutrition and physical fitness; use and abuse of drugs; health care services and current health problems.

102 Prevention and First Aid (2)

The hazards in environment. The care and prevention of accidents. Standard first aid certification by the American Red Cross granted upon successful completion of requirements.

203 Advanced First Aid (3)

A course of training in the application of advanced first aid/emergency care procedures, and medical self-help principles, to maintain life support functions in an emergency situation. Red Cross certification may be earned.

318 Principles of Holistic Health and Wellness (3)

Prerequisite: upper-division standing or consent of instructor. Orientation to holistic concepts of health and wellness. Interplay of mind and body in health and illness. Students explore basic dimensions of wellness and develop a personalized wellness profile.

321 Drugs and Society (3)

Habit-forming substances such as alcohol, tobacco, narcotics, hallucinogens, and related drugs, other stimulants and depressants. Social, historical, and legal aspects of the drug problem are considered. For California teaching credential.

350 Nutrition: Vital Link to Better Health (3)

(Same as Nursing 350)

410 Health Education for Teachers (3)

School health, drug education, family living, community health, teaching philosophy, safety education, and strategy. For California teaching credential.

PHYSICAL EDUCATION COURSES

Only one section of the following activity courses may be taken in the same semester (e.g., PE 131A,B,C,D are the same activity): PE 100, 102 through 167, 264A and 246B.

100 Physical Conditioning (1)

Designed to improve the individual's overall fitness through an understanding and application of the basic principles and techniques of physical conditioning. Emphasizes muscular strength/endurance, cardiorespiratory endurance, and flexibility components through various forms of exercise methods. May be repeated for credit.

101 Athletic Conditioning (specific sport) (1)

A conditioning program designed to improve strength, flexibility, agility and cardiovascular conditioning for a specific sport. *Credit/no credit only.* May be repeated for a maximum of four units of credit.

102 Jogging (1)

The basic concepts of aerobic principles of conditioning. Elementary anatomical, physiological, biomechanical, and psychological factors associated with jogging are presented in order to serve as the basis for practical guidelines in developing or modifying the jogging workout. May be repeated for credit.

104–167 Activity Courses (1)

104 Horseback Riding; 105 Cycling; 106 Skiing; 107 Ice Figure Skating; 108 Roller Skating; 110 Swimming; 111 Life Saving; 112 Water Polo; 114 Skin Diving; 116 Springboard Diving; 117 Bowling; 118 Archery; 119 Golf; 120 Gymnastics; 122 Sailing; 125 Rock Climbing; 130 Badminton; 131 Tennis; 132 Racquetball; 133 Handball; 142 Children's Games; 144 Exercise Weight Control; 146 Body Building; 147 Olympic and Power Lifting; 150 Wrestling; 151 Aikido; 152 Karate; 154 Self Defense; 155 Fencing; 160 Baseball; 161 Slow Pitch Softball; 162 Fast Pitch

Softball; 164 Volleyball; 165 Soccer; 166 Team Handball; 167 Basketball. Activity courses are primarily instructional. Beginning, intermediate and advanced sections are offered for most activity courses. Students who already possess some proficiency in an activity should consider the course chosen from the standpoint of the level of skill development which may be encountered, standards of proficiency expected and their own ability level. Initial assessment and determination will be made by the course instructor. May be repeated for credit.

170–189 Intercollegiate Sports (2)

Prerequisite: consent of coach. An intercollegiate activity in individual or team sports in an educational setting under the direction of a coach. PE 170 Gymnastics; 171 Golf; 172 Cross Country; 173 Water Polo; 174 Track-Field; 175 Tennis; 176 Wrestling; 177 Fencing; 178 Basketball; 179 Baseball; 180 Soccer; 184 Football; 185 Volleyball; 186 Softball. May be repeated for credit.

190 Team Management (2)

Prerequisites: consent of coach, undergraduate studies adviser and department chair. Field experience in the management of an intercollegiate sport. May be repeated for maximum of eight units of credit. (Credit/No Credit only)

201 Introduction to Human Movement (3)

Human movement as a discipline through an overview of the subdisciplines, and an examination of opportunities for personal and professional application. Closed to upper division majors.

210 Water Safety Instructor (2)

Prerequisite: PE 111 or equivalent and consent of instructor. Prepares the student to teach swimming and life saving and to supervise aquatic programs. Successful completion will qualify the student for certification as an ARC Water Safety Instructor. (1 hour lecture, 2 hours activity)

214 Basic Scuba (2)

Prerequisite: PE 114, or ability to swim 400 yards, tread water one minute and swim 25 yards underwater. Skin and scuba diving, theory of diving, safety procedures, and ocean environment. Open Water Basic Scuba Certification for successful completion. (1 hour lecture, 2 hours pool activity/ocean dives)

220 Introduction to Coaching (2)

Leadership, teaching and personal traits. Motivation, social, medical and physical hazards. The novice coach, responsibilities, administration and effects of superstition and myths. Application procedures, résumé and interview. (Non-major credit only)

246A Basic Hatha Yoga (2)

Basic Yoga postures, breathing and relaxation techniques, and beginning meditation techniques from theoretical and experiential perspectives. Awareness, concentration, and breathing patterns that accompany the movements of Hatha Yoga. (1 hour lecture, 2 hours activity) (Same as Religious Studies 246A)

246B Intermedidate Hatha Yoga (2)

Prerequisite: PE 246A. An intermediate study of the theoretical and experiential aspects of Hatha Yoga. Intermediate postures, relaxation, breathing, stretching and concentration techniques are examined. The philosophical and psychological components of Hatha Yoga are discussed. An integrated approach to the body and movement is investigated. (1 hour lecture, 2 hours activity) (Same as Religious Studies 246B)

260 Movement Anatomy (3)

The musculo-skeletal system and its function in human movement. Movement in sports skills and the muscles involved.

300 Principles of Movement (3)

Prerequisite: PE 260. General movement patterns as applied to sport and human movement.

302–319 Analysis of Sports (2)

Prerequisite: prior experience in the specific sport(s) to be studied. Must demonstrate proficiency. Analysis of specific sport(s), including game play and skill performance. Understanding the nature of the activity. 302 Track Events; 303 Field Events; 304 Swimming; 305 Golf; 306 Gymnastics; 308 Soccer; 309 Badminton/Racquetball; 312 Tennis; 314 Wrestling; 316 Volleyball; 317 Basketball; 319 Softball.

320–339 Techniques of Coaching: Selected Sports (2)

To prepare the student to coach specific individual and team sports. Coaching techniques, conditioning of athletes, budget preparation, purchase and care of equipment, scheduling and design and care of facilities. 328 Gymnastics; 330 Softball; 332 Tennis; 334 Baseball; 335 Football; 337 Basketball; 338 Volleyball. *A maximum of 6 units may be applied toward completion of the units required for the major.*

340 Contemporary Movement Environments (3)
The acquisition of physical skills in diverse environments; similarities and differences among age groups. Useful for those considering teaching careers. Required visits to schools and other sites.

343 Intermediate Scuba (2)
Prerequisite: Open Water Scuba Certification. Application of scuba diving, including photography, navigation, salvage, game hunting, night diving and others. Advanced Scuba Certification for successful completion. (1 hour lecture, 2 hours pool activity/ocean dives).

345 Underwater Photography (2)
Prerequisite: Open Water Scuba Certification. Photography in the underwater environment. Equipment, underwater camera techniques, flash, and macrophotography. (1 hour lecture, 2 hours pool activity/ocean dives)

349 Measurement and Evaluation in Physical Education (3)
Tests and measurements used in the evaluation of human movement. Statistical analysis, domains of learning, and the construction, selection and administration of tests.

351 Principles of Conditioning (3)
Prerequisite: PE 260 required; 300 and 352 recommended. Conditioning for those who plan to coach or supervise fitness programs. Circuit training, nutrition, motivation, weight control and kinesiology factors for women's and men's athletics.

352 Physiology of Exercise (3)
Recommended: Biol 362. Physiological processes in physical activities and the effects of training upon performance. (3 hours lecture)

352L Physiology of Exercise Laboratory (1)
Prerequisite: prior completion or concurrent enrollment in PE 352. Laboratory techniques in physiology of exercise. (3 hours laboratory)

363 Developmental Adaptations of Atypical (3)
Prerequisites: PE 300, 352, 364, or consent of instructor. The disabled whose unique needs in motor development determine their least restrictive environment in physical activity. Programs of games, sports and exercise in diversified settings; legally mandated regulations.

364 Motor Development (3)
Prerequisites: PE 260 and 352, or consent of instructor. Life span motor development: age, sex, ethnic, cultural and perceptual components; their implications and the main course of action needed in developmental strategies for optimal motor behavior development.

365 Prevention and Care of Athletic Injuries (3)
Prerequisites: upper division standing, Health Education 102 or equivalent and consent of instructor. For trainers, coaches, physical education instructors, health educators, YMCA and playground personnel, and athletes in the prevention and care of athletic injuries. Practical applications and theory. (2 hours lecture, 2 hours activity)

366 Advanced Prevention and Care of Athletic Injuries (3)
Prerequisites: upper division standing, PE 365, or consent of instructor. Prevention and care of athletic injuries, administrative responsibilities, advanced treatment modalities, preconditioning, and rehabilitation. (2 hours lecture, 2 hours activity)

371 Theory and Principles of Human Motor Learning (3)
Information processing as an explanation of motor learning and motor memory.

371L Theory and Principles of Human Motor Learning Laboratory (1)
Prerequisite: prior completion or concurrent enrollment in PE 371. Laboratory techniques in motor learning studies. (3 hours laboratory)

372 Movement and the Child (3)
Characteristics of the child; physical growth and development; basic mechanical principles underlying efficient movement; and programs for physical needs of children in the elementary school.

373 Movement Concepts (3)
Physical activity: space, force, time, and flow. Observation, participation, analysis, and synthesis of movement experiences.

380 History of Physical Education and Sport (3)
Historical development of thought and practice in athletics, sport, and physical education beginning with the ancient Greeks up to the modern period with special emphasis upon the historical role of sport in American life.

381 Human Movement in Cultural Perspective (3)
Human movement in the cultural milieu. Historical and contemporary interpretations of the role of play, games and sports, dance and recreation in human life.

382 Philosophical Perspectives of Human Movement (3)
The meaning and significance of participation in human movement. Human movement relative to personal identity, meditation, aesthetics, values, ethics, and the nature of competition.

383 Psychological Aspects of Human Movement (3)
Psychological variables and individual performance in human movement settings. Observational learning, arousal, anxiety, achievement motivation, causal attributions, aggression, personality, and attitudes.

384 Sport Sociology (3)
Sport in society. Sport and social institutions and social processes. Understanding sport as a social phenomenon.

390 Principles of Sport and Exercise Management (3) (Formerly 405)
A broad overview of the sport/exercise management enterprise, including school, facility, professional, commercial, industrial, corporate management and specialists in marketing, print/electronic media. Job descriptions, professional preparation and placement opportunities are detailed. Portfolio development.

396 Tutorial (1)
Prerequisites: consent of instructor, tutorial adviser and department chair. Students assist in activity classes. May be repeated for six units of credit. A maximum of three units may be applied toward the major.

407 Sport Consumer Packaging (3)
Prerequisite: Marketing 351 or PE 390 or Communications 361 or consent of instructor. Technical application of promotions, public relations, marketing, contract negotiations, box office and event operations as each applies to packaging sport entertainment. Case methods and applied team project.

442 Teaching Physical Education in the Secondary School (3)
Prerequisite: admission to teacher education. Objectives, methods and materials of teaching physical education K to 12. Required before student teaching. Part of the 12-unit education block and may not be taken separately. (Credit/No Credit only)

449A Student Teaching Physical Education (10)
See description under Division of Teacher Education. (Credit/No Credit only)

449B Student Teaching Seminar (2)
See description under Division of Teacher Education. (Credit/No Credit only)

451 Sports Medicine (3)
Prerequisites: upper division standing, PE 352 or its equivalent or consent of instructor. Factors (environmental, ergogenic, etc.) which alter the typical physiological response to exercise and training.

452 Physical Performance Testing and Counseling (3)
Prerequisite: PE 352 and 352L required; PE 351 and 451 recommended. Testing and counseling techniques used to assess and develop physical performance.

461 Biomechanics (3)
Prerequisite: PE 300 or consent of instructor. The application of biomechanics to the analysis of human movement.

471 Motor Control (3)
Prerequisite: PE 371. The application of behavioral and neurological evidence to the control of human movement. Mechanisms subserving movement based on the central and peripheral nervous systems are studied in relation to the control of discrete and sequential movements.

473 Motor Impairment in Children (3)
Prerequisites: PE 363, 364 or consent of instructor. Identification of abnormal motor behavior of neurologically handicapped children. Assessment factors, development of educational and/or therapeutic models of remediation and action strategies. Disorders of neuromotor, convulsive, impulsive and minimal dysfunction child syndrome.

474 Kinesiotherapy (3)
Prerequisites: PE 260, 300, 363, or consent of instructor. Kinesiological bases of therapeutic exercicse. The application of kinesiological principles in the selection and design of therapeutic exercise activities and programs for various physical disabilities.

475 Behavioral Dimensions of Motor Performance (3)
Prerequisites: PE 371, 383. An integrated approach to the understanding of psychological processes and behavioral variables which affect the acquisition and performance of motor skills.

496 Practicum (1–3)
Prerequisites: junior or senior standing and consent of faculty sponsor, field supervisors, departmental coordinator, and department chair. Planning, preparing, coaching, teaching in public school, college, or community physical education or recreation programs. May be repeated for a maximum of six units of credit. Credits not applicable toward major. (Credit/No Credit only)

499 Independent Study (1–3)
Prerequisites: completion of a minimum of 15 upper division physical education units. Topics based on a study plan prepared in cooperation with a faculty supervisor. Culminates in a paper, project, comprehensive examination or performance. Maximum of three units in any one semester; may be repeated once.

508 Statistical Methods in Physical Education (3)
Prerequisite: graduate standing and PE 349 or equivalent. Statistical theory, data collection procedures, techniques for analysis and interpretation of data.

510 Research in Physical Education (3)
Prerequisites: graduate status and PE 508. Research in physical education. The types of research with tools of and equipment for the respective research. Selection and development of research problems and critique of completed studies.

516 Advanced Study of the Philosophical Perspective of Human Movement (3)
Prerequisites: graduate status, PE 382 or consent of instructor. Methods of the philosophical process and human movement.

520 International Physical Education and Sport (3)
Prerequisite: graduate status. The theory and practice of physical education and sports in selected foreign countries. Evaluation of foreign physical education programs in relation to programs in the United States.

532 Curriculum Design in Physical Education (3)
Prerequisite: graduate status with a major or minor in physical education. Curriculum development models and factors influencing curriculum development in physical education. For curriculum development and/or improvement of a physical education program.

550 Internship (3)
Prerequisites: classified status and consent of graduate adviser. On-the-job training experiences supervised by a fully trained practitioner. Requirements include 10 hours per week of on-the-job training and 1 hour weekly conference with instructor. May be repeated once for credit.

551 Advanced Study in Physiology of Exercise (3)
Prerequisite: graduate standing, PE 352 or equivalent. Theories of exercise and physiological function.

554 Advanced Study in Human Motor Behavior (3)
Prerequisites: graduate status, PE 371 or consent of instructor. Current issues in motor behavior.

555 Scientific Bases of Training (3)
Prerequisites: graduate status, PE 351, 352, or equivalent, or consent of instructor. Training: the physiological bases for developing the primary fitness components.

580 Advanced Study in Psychological Aspects of Human Movement (3)
Prerequisites: graduate status, PE 383, or consent of instructor. Current issues and research in psychology and human movement.

582 Advanced Study in Sport Sociology (3)
Prerequisites: graduate status, PE 384, or consent of instructor. The theories and methods of sociology and the study of the sport phenomenon.

597 Project (1–2)
Prerequisites: PE 508, 510 and consent of project committee. Directed independent project. Student will select and have approved a project proposal, conduct the project, and prepare a formal analysis and report. May be repeated.

598 Thesis (2–4)
Prerequisites: PE 508, 510 and consent of thesis committee. Directed independent research. Student will select and have approved a research proposal, conduct the research, and prepare a formal analysis and report. May be repeated.

599 Independent Research (1–3)
Prerequisites: graduate status, PE 508, 510, and consent of the faculty adviser and department chair. May be repeated for maximum of 6 units of credit. Student research in a specific area of physical education.

RECREATION COURSE

384 Leisure in America: A Social History (3)
(Same as History 384)

HUMAN SERVICES PROGRAM

FACULTY

Corinne Wood
Program Coordinator

Gerald Corey, Rosalie Gilford, Myron Orleans, J. Michael Russell

The Bachelor of Science in Human Services is a carefully articulated degree program providing both an academic and experiential background for the student seeking a career working with people in the varied and expanding field of human service. An application-oriented degree, it is based on a synthesis of knowledge from several social sciences, together with a methodology of humanistic, personal intervention at both the group and individual levels. Human services graduates are educated to respond in an informed way to identifiable human service needs in a variety of settings. The program's humanistic orientation and its synthesis of knowledge from many background disciplines, as well as its focus on the development of specific methods and practical skills to apply this knowledge, give it a perspective that is different from that of any single discipline.

The Human Services Program is structured around four interrelated components: theoretical foundations/intervention strategies; client populations/cultural diversity; research/evaluation; and skills development/field experience. Students majoring in human services are required to complete a core of 36 units (in the above four areas), plus an 18-unit package of adviser-approved courses related to their anticipated professional specialization. Majors must achieve a grade of C or better in all courses included in the core requirements and in the advisement track.

Courses required for the major total 54 units. The suggested sequence is as follows:

A. Required Core Curriculum (36 units)

Sophomore Year: Human Services 201, Introduction to Human Services; Psychology 361, Developmental Psychology, *or* Child Development/Teacher Education 312, Human Growth and Development; an introductory social research course (e.g., Psychology 202 or 203; Sociology 203 or 302 or 303).

Junior Year—First Semester: Human Services/Counseling 380, Theories and Techniques of Counseling; Sociology 305, Techniques of Social Welfare; Psychology 341, Abnormal Psychology, *or* Sociology 466, Deviant Behavior.

Junior Year—Second Semester: Human Services/Afro-Ethnic Studies 311, Intracultural Socialization Patterns; Human Services 385, Program Design and Proposal Writing; Human Services 396, Practicum Seminar (2), and Human Services 396L, Practicum (1).

Senior Year—First Semester: Human Services 495, Fieldwork Seminar (2), and Human Services 495L, Fieldwork (1)

Senior Year—Second Semester: Human Services 470, Evaluation of Human Service Programs; Human Services 496, Internship.

B. Required Advisement Track (18 units)

In addition to the 36-unit core, the human services degree program requires each student to select, in consultation with an adviser, 18 units of course work in the area of her/his anticipated professional specialization. Examples of advisement tracks include: advocacy and community organization, adolescence, health services, gerontology, multiple subject (elementary) teacher education, paraprofessional counseling, social rehabilitation, social welfare, or an individual program worked out with an academic adviser. Students are expected to consult an adviser during their first semester in the Human Services Program.

MULTIPLE SUBJECT CREDENTIAL WAIVER PROGRAM

A carefully selected sequence of courses taken in conjunction with the human services major has been approved by the State of California as a waiver for the Commons portion of the National Teachers' Examination. *One* requirement for a Multiple Subjects (Elementary) Teaching Credential is completion of a waiver program *or* passing scores on the (NTE) Commons Examination. Contact the Credential Preparation Center for further information.

HUMAN SERVICES COURSES

201 Introduction to the Human Services (3)
The origin and scope of human services including theoretical frameworks, the functions and activities of human services organizations, and the roles and related skills of human services workers.

300 Character and Conflict (3)
Prerequisite: consent of instructor at first class meeting. An experiential, theme-oriented class exploring life choices in the struggle for personal autonomy. Themes include: body image, sex roles, love, sexuality, intimacy, marriage, alternative life-styles, loneliness, death, meaning and values. Grade option 2.

311 Intracultural Socialization Patterns (3)
(Same as Afro-Ethnic Studies 311)

380 Theories and Techniques of Counseling (3)
Survey of contemporary theories and techniques of counseling. The counseling process, comparison of various theoretical approaches, introduction to professional and ethical issues in the helping profession of counseling. (Same as Counseling 380)

385 Program Design and Proposal Writing (3)
Prerequisite: Human Services 201 or consent of instructor. Programming in public and private agencies: program proposal writing; design of empirical research components; analysis and critiques of agency task force programming; program-funding agencies and grant writing; program budget.

396 Practicum Seminar (2)
Prerequisite: Human Services 201. Corequisite: Human Services 396L. Functions and structure of human services agencies; interrelationships with community services; the role of the human services worker; ethical, legal and professional issues.

396L Practicum (1)
Prerequisite: Human Services 201. Corequisite: Human Services 396. Field placement in one or more human service agencies for a minimum of six hours per week. Grade option 2.

470 Evaluation of Human Services Program (3)
Prerequisites: Human Services 385 and a basic social research course. Making program objectives measurable; determining appropriate methodology and techniques to evaluate effectiveness, efficiency and process variables; practical problems of program evaluation.

480 Case Analysis and Intervention Techniques (3)
Prerequisites: Human Services 380, 396 and 396L; Psychology 341. Techniques of counseling; appropriateness in the utilization of theoretical modalities; case writing; various counseling intervention methods suitable for a culturally diverse population. Role-playing and videotape observations of actual counseling encounters. (Same as Counseling 480)

485 Program Design and Proposal Writing (3)
Corequisite: Human Services 470. Programming in public and private agencies; program proposal writing; design of empirical research components for innovative programming and accountability; analysis and critiques of agency task force programming for immediate social problems; program-funding agencies and grant writing; program budget.

490 Practicum in Group Leadership (3)
Prerequisites: Human Services 300, 380 and consent of instructor. Supervised experience as a group leader. Approaches and techniques of group leadership. May be repeated once for credit.

495 Fieldwork Seminar (2)
Prerequisites: Human Services 396 and 396L. Corequisite: Human Services 495L. Classroom analysis of agency experience focusing on skills and techniques of human service workers and organizational analysis.

495L Fieldwork (1)
Prerequisites: Human Services 396 and 396L. Corequisite: Human Services 495. Supervised fieldwork in one or more human service agencies for a minimum of six hours per week. Grade option 2.

496 Internship (3)
Prerequisites: Human Services 495 and 495L and at least two courses in approved specialization. Supervised internship in a community service agency in area of specialization. A minimum of eight hours of supervised fieldwork per week.

499 Independent Study (1–3)
Prerequisites: approval of coordinator, consent of instructor, upper-division status. Individual research project, either library or field, under the direction of a faculty member. May be repeated for credit. Only three units per semester.

DEPARTMENT OF NURSING

FACULTY

Vera Robinson
Department Chair
Arlene Gray, Linda McKeever, Sandra Schwartz, Barbara Talento

BACHELOR OF SCIENCE IN NURSING

The Department of Nursing offers to the registered nurse with an associate degree in nursing (or its equivalent) an upper-division program leading to a bachelor of science degree with a major in nursing. Graduates are eligible for certification as public health nurses in the state of California.

The program is accredited by the National League for Nursing.

Purpose

The purpose of the nursing program is to provide registered nurses with knowledge, skills and attitudes necessary for the performance of the professional nursing role and characteristic of the generally educated person. The program prepares a nursing generalist who can apply the humanistic approach within a framework of scientific and professional accountability and who can function independently in a variety of health settings. The program provides students with the necessary foundation for graduate education and specialization and promotes and fosters commitment to lifelong learning for personal and professional growth.

Admission Requirements

1. Meet requirements for admission to the university as a transfer student.
2. Completion of an associate degree in nursing or its equivalent.
3. Current licensure as a registered nurse in California.
4. Completion of one college level course in each of the following: anatomy-physiology (with laboratory), chemistry (with laboratory), microbiology, psychology, and sociology or anthropology. A minimum grade of C must be attained in each course.
5. Completion of one year of satisfactory work experience as a registered nurse is recommended.

Admission Procedures

Students are accepted into the nursing program twice each year in the fall and spring semesters.

1. Submit a university application and an official transcript of all previous college work to the Office of Admissions and Records.
2. Submit a nursing application form to the Department of Nursing office with a transcript copy of all previous college work and two letters of reference from previous employers or instructors.
3. Group counseling sessions are available each semester for prospective students.
4. Entry tests will be required prior to and during the first clinical nursing course. Results will be used for counseling purposes. Exit tests will also be required. A fee is charged.

Departmental Regulations

1. All required nursing and support courses must be taken in a particular sequence. Check each nursing course for prerequisites and corequisites. Students may enroll in only one clinical course (Nursing 305L, 355L, 402L and 452L) per semester.
2. Students must apply for the clinical nursing courses each semester prior to enrollment in the class. (November 15 deadline for spring semester and April 15 for fall semester.) Enrollment in the seminar and clinical sections is limited to 10–15 students.

3. Students must maintain a cumulative 2.0 grade-point average on all units attempted and attain a minimum grade of C in all nursing and support courses.
4. The student who earns less than a grade of C in nursing or support courses must repeat that course prior to being admitted into the next nursing course in sequence. A nursing course may be repeated only one time and requires departmental consent.
5. Students must have malpractice insurance and access to transportation in order to be admitted into clinical courses.
6. Students are required to make an appointment with advisers at least once each semester.
7. Professional standards are expected to be maintained. A student who demonstrates unprofessional behavior or behavior which indicates unsafe practice may be denied progression or may be dismissed from the program. Refer to department for complete progression and retention policy as stated in the Student Handbook.

SCHOLARSHIPS, AWARDS, FINANCIAL AID

1. Financial aid and community scholarships are available.
2. Outstanding senior student and W.J. Traber Humanism Award are given to graduating seniors.

Requirements for the Degree

1. The total number of units required for the Bachelor of Science in Nursing is 128. This consists of a specific combination of prerequisites, general education, nursing and elective courses.
2. The following courses are required for the nursing major: Nursing 305, 305L, 307, 355, 355L, 357, 400, 400L, 402, 402L, 450, 450L, 452, and 452L (34 units); Chemistry 300 and 300L (4 units); Biological Science 425 (3 units); an upper-division statistics course (3 units). Total: 44 units.
3. All students must complete the university upper-division baccalaureate writing requirement, which includes the Examination in Writing Proficiency.

BACCALAUREATE PLAN OF STUDY

Students may attend full time or part time. Courses must be taken in semester sequence.

Junior Year: First Semester	*Units*
Nursing 305/L Professional Nursing I (Laboratory/Clinical) *	3, 2
Nursing 307 Health Promotion: Parent-Child Nursing	3
Chemistry 300/L Organic and Physiological Chemistry (Laboratory)	
General Education/Electives	3
Junior Year: Second Semester	
Nursing 355/L Professional Nursing II (Laboratory/Clinical) *	3, 2
Nursing 357 Health Promotion: Adult-Aged Nursing	3
Biological Science 425 Pathobiology	3
Statistics (upper division) *or*	
General education/electives	3
Senior Year: First Semester	
Nursing 400/L Professional Dimensions of Nursing 3 units	3
Nursing 402/L Community Health Nursing (Clinical) *	2, 4
Electives/general education	6
Senior Year: Second Semester	
Nursing 450/L Nursing Research	3
Nursing 452/L Leadership/Management in Professional Nursing (Clinical) *	2, 4
Electives/general education	6

NURSING COURSES

Note: All nursing courses require (1) admission to the university as a nursing major, (2) current California R.N. licensure, (3) an associate degree (junior standing) and (4) consent of instructor.

305 Professional Nursing I (3)

Prerequisites: see note above. Corequisite: Nursing 305L. Focuses on professional nursing role, nursing process, holistic man, selected bio-psycho-social and nursing theories. Concepts and

* Clinical courses require malpractice insurance and access to transportation.

theories of adaptation and communication, with skills in therapeutic and written communication emphasized. Meets upper-division writing requirement.

305L Professional Nursing I: Laboratory/Clinical (2)

Prerequisites: see note above. Corequisite: Nursing 305. Application of nursing process utilizing adaptation framework and concepts presented in Nursing 305 with clients in community settings and simulations on campus. Emphasis on psycho-social assessment of clients and problem-solving. Examination of student's personal values as aid to professional nursing role socialization. (Lab/Clinical 6 hours)

307 Health Promotion: Parent-Child Nursing (3)

Theories and issues important in parent-child nursing. Specific nursing interventions useful in preventing maladaptation relative to developmental change. Topics explored: genetic counseling, maternal-child bonding, sexuality, adaptation patterns from birth through young adulthood, cultural determinants.

350 Nutrition: Vital Link to Better Health (3)

Prerequisites: Chemistry 111 or comparable course. Concepts of nutrition as they relate to nutritional needs, practices and problems throughout the life cycle. Emphasis on nutritional counseling and education of individuals/groups toward health promotion and disease prevention.

355 Professional Nursing II (3)

Prerequisites: Nursing 305, 305L, 307; Chemistry 300 and 300L. Corequisite: Nursing 355L, 357, Biological Science 425. Focuses on physical assessment, identification of stressors and health education. Techniques in health history-taking and physical examination. Specific common stressors are analyzed that influence adaptation and optimal health.

355L Professional Nursing II: Laboratory/Clinical (2)

Prerequisites: Nursing 305, 305L, 307; Chemistry 300 and 300L. Corequisite: Nursing 355, Biological Science 425, Nursing 357. On-campus supervised practice of physical assessment and supervised nursing practice with clients in ambulatory and in-patient care settings. Students perform total health assessment, utilize decision-making, teaching and evaluation skills. (Lab/Clinical 6 hours)

357 Health Promotion: Adult-Aged Nursing (3)

Prerequisites: Nursing 307. Developmental theories of adulthood and the aging process. Selected topics (body image, sexuality, family, retirement, anger, depression, death and dying) examined with emphasis on adaptation to developmental and situational stressors and nursing interventions.

360 Promoting Health of the Elderly (3)

Characteristics of aging and concerns of the elderly: multi-dimensional assessment and selected therapeutic interventions useful in promoting health of the elderly. Evaluations of health practices and determination of appropriate referrals.

400 Professional Dimensions of Nursing (2)

Prerequisites: Nursing 355L, 357; Chemistry 300 and 300L; Biological Science 425 and 425L. Corequisite: Nursing 400L. Analysis of social trends and issues affecting nursing and health care. Bioethics, health care legislation and roles of professional organizations are examined. Nursing leadership tasks are explored in relation to group process, values clarification and ethical decision-making.

400L Professional Dimensions of Nursing: Laboratory (1)

Prerequisites: Nursing 355, 355L, 357; Chemistry 300 and 300L; Biological Science 425 and 425L. Corequisite: Nursing 400. Understanding of group process theory by assuming leader, member and participant observer roles. Actual and potential stressors are explored and communication patterns analyzed. Includes observation of group process in health planning committees, professional organizations and community health advocacy groups.

402 Community Health Nursing (2)

Prerequisites: Nursing 355L, 357. Corequisite: Nursing 402L. Theories of community health and nursing synthesized to help students facilitate the adaptation process of clients, families and communities to attain and maintain optimal health. Emphasis on family health care, assessment of community health needs, advocacy, collaborative role.

402L Community Health Nursing: Clinical (4)

Prerequisites: Nursing 355L, 357. Corequisite: Nursing 402. Application of community health nursing concepts to family health care in the community milieu. Students collaborate with families and others and use community resources to promote optimal family health and improve health status. (Clinical 12 hours)

450 Nursing Research (2)
Prerequisites: Nursing 400, 400L, 402, 402L. Corequisite: Nursing 450L. Historical, philosophical, and ethical aspects of nursing research. Relationship between nursing research and professional accountability. Principles and methods of research process with emphasis on evaluating research for use in leadership and professional role.

450L Nursing Research: Laboratory (1)
Prerequisites: Nursing 400, 400L, 402, 402L. Corequisite: Nursing 450. Evaluation of specific nursing studies to determine significance and applicability to nursing practice. Students have opportunities to apply selected research concepts as they develop a research proposal.

452 Leadership/Management in Professional Nursing (2)
Prerequisites: Nursing 400, 400L, 402, 402L. Corequisite: Nursing 452L. Nursing 450 and 450L must be taken prior to or concurrently. Theories of leadership/management; concepts of power, motivation, decision-making, change and management skills related to health care system and professional nursing role. Barriers and issues relative to change, conflict resolution and change strategies.

452L Leadership/Management in Professional Nursing: Clinical (4)
Prerequisites: Nursing 400, 400L, 402, 402L. Corequisite: Nursing 452. Nursing 450 and 450L must be taken prior to or concurrently. Application of leadership/management theories and skills in student-selected and faculty approved clinical settings. Students synthesize professional nursing role through individualized learning contract. (Clinical 12 hours).

499 Independent Study in Nursing (1—3)
Prerequisites: senior standing in nursing and/or consent of instructor. Individually supervised studies and/or projects.

DEPARTMENT OF READING

FACULTY
Norma Inabinette
Department Chair
Thomas Bean, Ashley Bishop, Ruth May, JoAnn Wells

MASTER OF SCIENCE IN EDUCATION

See "Graduate Programs."

UNDERGRADUATE READING SKILL DEVELOPMENT SKILLS COURSES

Lower division courses in reading (Reading 101, 103 minicourses, 201 and 202) and an upper-division course (Reading 320) are designed to assist students in developing the critical and creative reading skills required for efficient university learning.

READING SPECIALIST CREDENTIAL

The Commission for Teacher Preparation and Licensing has granted approval to the Reading Department to offer a Reading Specialist Credential Program.

An examination of the course requirements will show overlapping between the Reading Specialist Credential and the Master of Science in Education, concentration in Reading degree. By careful planning with a graduate adviser in reading, the student can virtually complete the requirements for both at the same time.

Program pre-entry requirements for the Reading Specialist Credential are as follows:

1. *Methods of teaching reading.* Prior to entering this approved program the students will present evidence (transcripts) demonstrating satisfactory completion of one of the following:
   A. Ryan Act reading methods courses, such as Ed-TE 433 or Ed-TE 440R, or
   B. Teaching of reading examination adopted by the Commission for Teacher Preparation and Licensing (National Teacher Examination No. 20) or
   C. Reading 480, The Teaching of Reading (4 units) or the departmental exam offered in lieu of the course.
   D. Entering students who received teacher training from out-of-state institutions since September 1973, may submit a transcript and catalog course description and petition to have an undergraduate course accepted in lieu of the above.
2. *Teaching experience.* Prior to entering this approved program, both in-state and out-of-state students will present evidence in the form of letters of verification from the district office demonstrating satisfactory completion of one of the following:

A. Two or more years of successful experience teaching reading for at least one instructional period per day in public and/or private elementary and/or secondary schools, this experience to include at least a two grade spread, *or*
B. Two or more years of successful classroom teaching experience, this experience to include at least a two-grade spread, *or*
C. Two hundred fifty or more days of successful and extensive substitute teaching experience, this experience to include at least a two-grade spread, *or*
D. Successful student teaching experience, at least part of which involved the teaching of reading, as well as at least 45 hours of successful experience as either a teaching aide in reading or a reading tutor, this experience to include at least a two-grade spread.

Students whose teaching experience on the above covers less than a two-grade span may complete this requirement by tutoring students in Reading 581 and 583 at a grade level at least two years different from previous experience.
Top priority for entering the credential program will be given to those students meeting criterion "A" listed above. Other applicants will be admitted, as space permits, in descending order according to the remaining criteria.

3. *Passage* of the California Basic Education Skills Test (if not previously accomplished).
4. *Assessment of experienced reading specialists.* Prior to entering this approved program, the applicant who has served as a school or district reading specialist will be assessed according to the following criteria and have the program planned around the needs revealed by this assessment:
   Graduates of master's programs with an emphasis in reading, and applicants functioning as reading specialists who have not completed such a degree: evaluation of competencies required under this credential to be completed by a faculty member in conjunction with the applicant in Reading 582I, Analysis of Reading Practices, Assessment of Reading Specialist Competencies (1 unit)
   Assessment strategies include:
   (1) Self assessment of progress toward attaining specified program objectives. Students will rate themselves on a scale of 1–7 on each of the major program objectives. Students who rate themselves
      (a) 1 or 2 on a given objective will be advised to take the appropriate course(s) to meet that objective;
      (b) 3, 4 or 5 on a given objective will be given the opportunity to take a department prepared exam or write a professional paper under the guidance of an instructor which demonstrates that the student has achieved this objective to minimally stated standards. The student may opt to take course work instead of writing the exam or paper;
      (c) 6 or 7 on the given objective will verify their competency in an oral exam during an interview with a faculty member;
      (d) Students who avail themselves of the oral and/or written evaluation procedures and do not meet the previously specified standards will be required to take the required course work related to these objectives.
   (2) Faculty assessment of progress toward attaining specified program objectives, this to include letters of evaluation from supervisory personnel, direct observation by faculty, and/or evaluation of oral or written evaluation.

At the conclusion of the assessment phase, the faculty member will develop a credential study plan which specifies the course work the student must complete before obtaining the credential.

Program Description

		Units
Reading 507	Current Trends in Secondary and College Reading Programs	3
Reading 508	Teaching Reading in Today's Elementary School	3
Reading 516	Etiology of Reading Difficulties	3
Reading 517	Educational Testing and Reading Instruction	3
Reading 581	Analysis of Reading Difficulties	4
Reading 582I	Analysis of Reading Practices; Assessment of Reading Specialist Competencies	1
Reading 585	Professional Development in Reading	3
Reading 584	Linguistics and Reading	4
Electives and/or support courses		7
Total		31

READING COURSES

101 Reading Development (1)
To improve reading efficiency. May be repeated for a maximum of three units.

103G Critical Reading (1)
Critical reading skills. Detecting fact and opinion, author's purpose, tone and bias, making critical judgments and drawing inferences.

201 Academic Reading: Analyses and Strategies (3)
Analysis of the student's current skills in academic reading. A psycholinguistic approach defining reading as a communication, language and thought process in which the reader uses a minimum amount of visual cues combined with previous knowledge and experience to predict meaning.

202 Vocabulary Comprehension: Cognitive Processes (3)
The dynamic nature of language as revealed by history, etymology, communication theory, critical/analytical reading processes, and specific vocabularies. Selected readings as encountered in the academic environment.

320 Power Reading (3)
Reading improvement for the upper division student. Improvement of rate and comprehension, study skills and critical analysis. Not for student who has taken Reading 201 or has more than one unit of credit for Reading 101.

480 The Teaching of Reading (4)
Curriculum and methods in the teaching of reading in the elementary and secondary schools. Teachers' manuals and guides. Preparing lessons in classroom teaching of reading.

507 Current Trends in Secondary and College Reading Programs (3)
Prerequisite: consent of graduate adviser in reading or instructor. Recent research on the learner, the teacher, approaches, materials and facilities in the teaching of reading at secondary and college levels.

508 Teaching Reading in Today's Elementary School (3)
Prerequisite: consent of graduate adviser in reading or instructor. Current trends in the teaching of elementary reading, the teacher as a decision-maker and the reading process for all learners.

516 Etiology of Reading Difficulties (3)
Prerequisite: consent of graduate adviser in reading or instructor. Studies of the factors underlying learning disabilities in reading in children, adolescents and young adults.

517 Educational Testing and Reading Instruction (3)
Prerequisite: consent of graduate adviser in reading or instructor. Theory and application of individual and group intelligence, achievement and interest tests used with students in a reading program.

581 Analysis of Reading Difficulties (4)
Prerequisite: consent of graduate adviser in reading or instructor. Analysis and diagnosis of reading difficulties. Techniques and methods of prevention and treatment. Individual remediation of student. Primary through secondary.

582 Analysis of Reading Practices: Contemporary Issues (1)
Current issues in reading instruction, such as the exceptional child in reading, textbook evaluation procedures and comparative reading. Can be repeated for credit with different content.

582I Analysis of Reading Practices: Assessment of Reading Specialist Competencies (1)
Assessment of competencies of students entering the Reading program in preparation for the Reading Specialist Credential.

583 Instructional Development in Reading (3)
Prerequisite: consent of instructor. Seminar and fieldwork in the development of diagnostic-prescriptive procedures for working with developmental and corrective students in other than a one-to-one clinic setting.

584 Linguistics and Reading (4)
Prerequisite: consent of graduate adviser in reading or instructor. Linguistics and reading materials and instruction. Language development and the acquisition of reading. Teaching reading to linguistically different learners.

585 Professional Development in Reading (3)
Prerequisite: consent of instructor. Fieldwork in assessment and instruction through casework technique. Training in inservice education and communication with teachers, parents, consultants, and administrators. Includes grant proposal writing and program development techniques.

595 Advanced Studies (1–3)
Graduate seminars in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1–3)
Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1–3)
Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1–3)
Prerequisite: consent of instructor. Independent inquiry for qualified graduate students.

DEPARTMENT OF SPECIAL EDUCATION

FACULTY
Calvin Nelson
Department Chair
Stephen Aloia, Lester March, Leo Schmidt, Shirl Stark

The mission of the Department of Special Education is to develop and implement a curriculum which prepares persons who work with individuals with exceptional needs. This curriculum is designed to give credential and master's degree candidates a broad background in the physiological, environmental and social aspects of exceptionality. It also provides them with the opportunity to develop skills for managing environmental situations to bring about change and assist exceptional persons to be responsible for their own choices and development.

MASTER OF SCIENCE IN EDUCATION

See "Graduate Programs."

ADVANCED SPECIALIST CREDENTIAL PROGRAMS

The curriculum in specialist preparation meets the requirements of Teacher Preparation and Licensing Act of 1970. The curricula are subject to change pending approval by the Commission for Teacher Preparation and Licensing. Students are advised to contact the special education office for appropriate publications in the event curricular modifications are introduced by commission action.

Note: Students who have not previously done so must pass the California Basic Education Skills Test before they can be recommended for a Special Education Specialist Credential. This requirement should be attended to as early in the program as possible.

Specialist Credentials

Programs leading to four specialist credentials are available. They are:

1. Specialist credential to teach the physically handicapped (including the orthopedically handicapped)
2. Specialist credential to teach the learning handicapped (including the learning disabled, behavior disordered and educationally retarded).
3. Specialist credential to teach the severely handicapped (including the trainable mentally retarded, severely-multiply-handicapped, seriously emotionally disturbed and the autistic).
4. Specialist credential to teach the gifted.

All specialist training programs require a generic component and advanced specialist component, for the credential. Completion of the generic component is prerequisite to admission to advanced specialist component training.

Persons wishing to earn an advanced Special Education Specialist Credential must make formal application to the university indicating the specific specialist credential objective. In addition, applicants must meet the following requirements:

1. completion of a bachelor's degree;
2. presentation of a grade-point average of at least 2.75 in the last 60 units earned; and
3. possession of a preliminary multiple subject or single subject credential or another valid California standard teaching credential.

Advisement is available to any student seeking an advanced specialist credential in the Department of Special Education. New students will be assigned an adviser by the Graduate Records Office during the first month of the term in which they enter the Department of Special Education. Students should meet with their adviser during the first semester of enrollment in the Department of Special Education to file a credential study plan.

Generic Specialist Credential Requirements

All candidates for an advanced Special Education Specialist Credential must satisfactorily complete the following generic specialist credential courses:

1. Sp Ed 370 Personal Quest (3 units)
2. Sp Ed 479 Observation of Exceptional Children (3 units)

Advanced Specialist Credential Requirements

The specific program for each advanced specialist credential requires the same course sequence; however, different activity sections are designed to meet the specific needs of each credential.

	Units
Sp Ed 463 Exceptionality: Cognitive-Affective Characteristics	3
Sp Ed 464 Exceptionality: Physical-Sensory Characteristics	3
Sp Ed 465A,B,C or D Curriculum and Methods in Exceptionality	4
Sp Ed 573A,B,C or D Advanced Practices in Exceptionality	4
Sp Ed 574 Exceptionality: Noneducational Implications	3
Sp Ed 575 Exceptionality: Theory, Philosophy and Research	4
Total (including 12 prerequisite units)	21

RESOURCE SPECIALIST CERTIFICATE OF COMPETENCY

The curriculum for the Resource Specialist Certificate of Competency is designed to prepare candidates having approved entry-level skills and professional preparation to assume the role as resource specialists in programs serving special education students, their parents and their regular teachers. The certificate program meets the competencies set forth by the California Commission for Teacher Preparation and Licensing as well as additional standards deemed appropriate by the faculty of the Department of Special Education, other university personnel and community advisory board members. Students desiring this certificate without enrolling for a degree or credential should apply for admission to the university as undeclared postbaccalaureate majors.

Prerequisites

1. A 2.75 GPA.
2. If not already accomplished, passage of the California Basic Education Skills Test.
3. Appropriate advanced specialist credential in Special Education.
4. Verification of three or more years of successful experience with students in regular and special education classes.

Requirements	*Units*
Sp Ed 421 Working With Parents of Children with Exceptional Needs	3
Sp Ed 496 Practicum in Special Education	3
Sp Ed 528 Resource Specialist Seminar: Curriculum, Assessment, and Management	3
Sp Ed 529 Resource Specialist Seminar: Consulting and Staff Development	3
Total units	12

SPECIAL EDUCATION COURSES

370 The Personal Quest (3)

The factors contributing to personality. Individual needs, how they are met by the individual, other individuals, society and society's institutions. Life styles and how they meet the needs of individuals.

371 Exceptional Individual (3)

Children who deviate from the average in the elementary and the secondary schools; physically handicapped, mentally retarded, gifted, socially maladjusted, and emotionally disturbed. Special educational services, curriculum, procedures, and materials.

411 Mainstreaming (3)

A course designed to assist regular and special class teachers, school administrators and parents to implement the "Least Restrictive Environment" placement requirement of Public Law 94-142. Emphasis will be placed upon techniques to modify regular classrooms in order to accommodate handicapped children.

421 Working With Parents of Children With Exceptional Needs (3)
Patterns and problems of child rearing in families with exceptional children. Role of teachers and other professionals in developing cooperative programs involving parents and/or other family members. Community resources. Designing change programs.

463 Exceptionality: Cognitive-Affective Characteristics (3)
Individuals who deviate from the norm in cognitive and emotional functioning; the educable mentally retarded, gifted, slow learner, behaviorally disordered and emotionally disturbed.

464 Exceptionality: Physical-Sensory Characteristics (3)
Individuals who deviate from the norm in physical-sensory functioning; the visually handicapped, multiply handicapped, physically handicapped, and trainable mentally retarded.

465A Exceptionality: Curriculum and Methods for the Learning Handicapped (4)
Corequisite: Sp Ed 464. Curriculum development, methods and materials for teaching the learning handicapped. Lectures, demonstrations and practicum.

465B Exceptionality: Curriculum and Methods for the Severely Handicapped (4)
Corequisite: Sp Ed 464. Curriculum development, methods and materials for teaching the severely handicapped. Lectures, demonstrations and practicum.

465C Exceptionality: Curriculum and Methods for the Physically Handicapped (4)
Corequisite: Sp Ed 464. Curriculum development, methods and materials for teaching the physically handicapped. Lectures, demonstrations and practicum.

465D Exceptionality: Curriculum and Methods for the Gifted (4)
Corequisite: Sp Ed 463. Curriculum development, methods and materials for teaching the gifted. Lectures, demonstrations and practicum.

478 Innovations in Special Education (1–3)
Recent, dynamic and innovative methodologies and concepts as they relate to special education. May be taken for a maximum of six units.

479 Observation of Exceptional Children (3)
Prerequisite: consent of instructor. Participation in a class for exceptional children for greater part of every school day. Includes a two-hour seminar each week in problems and procedures for teaching exceptional children.

496 Senior Educational Practicum (1–3)
Conduct at an advanced level an educational practicum with educationally handicapped children.

499 Independent Study (1–3)
Prerequisites: senior or graduate standing and consent of instructor. Individual studies under the direction of faculty member. Experimental, library, or creative projects.

511 Strategies for Integrating the Handicapped (2)
Corequisite: Ed Adm 593. Designed to assist the administrator to understand the nature of handicaps and their implications for program integration and modification as well as attitude modifications and resource allocation.

513 Exceptionality: Application of Contemporary Humanistic and Holistic Research (3)
Prerequisite: graduate standing or consent of instructor. A graduate seminar to explore humanistic theories and holistic process as a significant contemporary approach to curricular formulation for the education of the exceptional individual.

520 Atypical Children, Fundamentals of Measurement (3)
Principles of measurement and the evaluation of atypical children. Areas covered: teacher design tests; normed tests and exceptional children; and using test for instructional planning.

522 Behavior Problems in the Classroom (3)
Prerequisite: Sp Ed 371 or consent of instructor. Identification and management of social and affective disturbances related to school performance. Early detection, behavioral modification techniques, parent counseling, interagency cooperation.

528 Resource Specialist Seminar: Curriculum, Assessment and Management (3)
Prerequisites: Sp Ed 463 and 464. Designed to prepare teachers to perform the coordination tasks of resource specialists. Focus is on curriculum, legal requirements of resource specialists programs, coordination functions and skills, and direct service to teachers and students.

529 Resource Specialist Seminar: Consulting and Inservice Skills (3)
Prerequisites: Sp Ed 463 and 464. To prepare teachers to perform consultation and staff development tasks required of resource specialists. Focus: collaborative consultation with other teachers, content and format for inservice activities, skills needed when working with decision-making groups.

530 Graduate Seminar in Giftedness and Creativity (3)
Prerequisite: Sp Ed 463 or consent of instructor. An examination of varieties of higher cognitive functioning and those characteristics or performances described as creativity. Focus on ways to enhance skills in analysis, synthesis, evaluation, creative problem solving and divergent productions.

531 Exceptionality: Seminar in Developmental Disabilities (3)
Prerequisite: Sp Ed 463 or 464 or consent of instructor. Analysis of selected problems in the field of developmental disabilities with major emphasis upon independent investigation into contemporary theoretical and research contributions.

573A Exceptionality: Advanced Practices for the Learning Handicapped (4)
Prerequisites: Sp Ed 463 and 465A. The application of educational practices with the learning handicapped. Seminar and fieldwork at selected sites in the community.

573B Exceptionality: Advanced Practices for the Severely Handicapped (4)
Prerequisites: Sp Ed 464 and 465B. The application of educational practices working with the severely handicapped. Seminar and field work at selected sites in the community.

573C Exceptionality: Advanced Practices for the Physically Handicapped (4)
Prerequisites: Sp Ed 464 and 465C. The application of educational practices with the physically handicapped. Seminar and fieldwork at selected sites in the community.

573D Exceptionality: Advanced Practices for the Gifted (4)
Prerequisites: Sp Ed 463 and 465D. The application of educational practices with the gifted. Seminar and fieldwork at selected sites in the community.

574 Exceptionality: Noneducational Implications (3)
Prerequisite: admission to graduate status. Economic and social implications of exceptionality. The adjustment of the exceptional individual to society. Society's accommodation to the individual.

575 Exceptionality: Theory, Philosophy and Research (4)
Prerequisites: admission to graduate status and consent of instructor. Theories, philosophies and evaluation strategies: exceptional individuals, critical evaluation of research on exceptionality and the consideration of investigatory models for studying exceptionality.

595 Advanced Studies (1–3)
Graduate seminars to develop professional competencies in behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1–3)
Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1–3)
Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1–3)
Prerequisite: consent of instructor. Independent inquiry. For qualified graduate students.

DIVISION OF TEACHER EDUCATION

FACULTY

James Cusick
Chair

Betty Jean Barnes, Carol Barnes, Mildred Donoghue, Manuel Escamilla, Peter Facione,* S. Ana Garza, Shirley Hill, Emma Holmes, Paul Kane, Bernard Kravitz, Edith McCullough, Eugene McGarry, Robert McLaren, Bryan Moffet, Norma Molina, Fraser Powlison, Judith Ramirez,* Nancy Reckinger, Morris Sica, Anthony M-Vega

SECONDARY EDUCATION TEACHING METHODS FACULTY

James Alexander (Journalism Education), Martha Baker (Music Education), Jean Barrett (Physical Education), Gloria Castellanos (Mathematics Education), John Cooksey (Music Education), Gerald Gannon (Mathematics Education), Kay Gjerdingen (Music Education), Mary Hartman (Journalism Education), Jacqueline Kiraithe (Foreign Languages Education), William Leonard (Mathematics Education), Emmet Long (Speech Education), Edith McCullough (Business Education), Sallie Mitchell (Theatre Education), David Pagni (Mathematics Education), Albert

* University administrative officer

Porter (Art Education), Nancy Reckinger (Social Science Education), Morris Sica (Social Science Education), Eula Stovall (Physical Education), H. Eric Streitberger (Science Education), Marjorie Tussing (Foreign Languages Education), John White (English Education), Charles Williams (Science Education), Jon Zimmermann (Foreign Languages Education)

The Division of Teacher Education offers programs leading to: (a) a Multiple Subject (Elementary) Teaching Credential, including a bilingual emphasis program; (b) a Single Subject (Secondary) Teaching Credential; (c) a specialist credential in Bilingual/Cross-cultural Education (Spanish-English); (d) a Master of Science in Education with a concentration in elementary curriculum and instruction; (e) a Master of Science in Education with a concentration in bilingual-bicultural education (Spanish-English); (f) a Master of Science in Education with a concentration in higher education; and (g) a Master of Science in Education with a concentration in teaching English to speakers of other languages (TESOL). The credential programs are centered in the assignment of students to public classrooms so that theory and practice are integrated in the study of educational foundations, curriculum and methods, and the teaching of reading. The graduate programs expand on the theoretical aspects of the functions of educational specialists who deal with current and persistent problems and help bring about effective teaching and learning for all children and youth.

Information about teacher education programs is available in the Division of Teacher Education office and the Credential Preparation Center.

GRADUATE PROGRAMS

MASTER OF SCIENCE IN EDUCATION

See "Graduate Programs."

CREDENTIAL PROGRAMS

Curricula in all basic and advanced specialist credential programs meet present requirements set by the California Commission for Teacher Preparation and Licensing and are subject to change by that body. Students are advised to contact the Credential Preparation Center for the latest information about requirements for basic teaching credential and advanced specialist credential programs offered by the Division of Teacher Education.

MULTIPLE SUBJECT CREDENTIAL PROGRAM

A multiple subject credential authorizes service as a teacher in a classroom where many different subjects are taught by a single individual. In California, multiple subject classrooms are most often found in elementary schools. Requirements for a *clear* multiple subject credential are: (Students may be recommended for a *preliminary* multiple subject credential upon completion of requirements 1-5. Requirements 6-8 must be completed within five years from the date of issuance of the preliminary credential.)

1. A baccalaureate (or higher) degree, except in professional education, from an institution approved by the Commission for Teacher Preparation and Licensing.
2. Satisfactory completion of at least two semester units of work on the provisions and principles of the Constitution of the United States or passage of a satisfactory examination.
3. An approved program of professional preparation, including student teaching. The approved professional preparation program at Cal State Fullerton is described below.
4. Demonstration of a knowledge of the various methods of teaching reading. This requirement may be met by passage of a commission-approved reading examination or completion of an approved program of study. Ed-TE 433 (Reading Instruction in Public Schools) meets this requirement at Fullerton.
5. Demonstration of competence to teach multiple subjects in one of the following ways:
   a. Passage of the Common Examination of the National Teachers Examination. (Information about the NTE is available in the Credential Preparation Center); *or*
   b. Completion of a program of study approved by the Commission for Teacher Preparation and Licensing as a waiver of the examination. All programs approved as waivers of the National Teachers Examination for the multiple subject credential include a minimum of 84 semester units of specified course work equally distributed among the following four areas: English (including grammar, composition, literature and speech); humanities and the fine arts (including foreign languages); mathematics and the physical or life sciences; and the social sciences, other than education and education methodology.
   The following departments and programs at Cal State Fullerton have approved waiver programs: American studies, Chicano studies, child development, English, French, German,

history, human services, Latin American studies, liberal studies, psychology, sociology, Spanish.

Other departments and programs submit waiver programs for approval on a continuing basis. Students should contact the elementary coordinator for information about additional waiver programs.

6. A fifth year of college or university postgraduate education taken at the upper-division or graduate level.
7. Satisfactory completion of a unit requirement in health education (including, but not limited to, emphasis on the psychological and sociological effects of abuse of alcohol, narcotics, and drugs and of the use of tobacco). At Cal State Fullerton, Ed-TE 314, Health Education 321, or Health Education 410 meets this requirement. The health education requirement may be completed concurrently with the professional preparation program described below.
8. Satisfactory completion of training in the needs of, and methods of providing educational opportunities to, individuals with exceptional needs. At Cal State Fullerton, Ed-TE 411 or Sp Ed 411 meets this requirement. Ed-TE 411 may be completed concurrently with the professional preparation program described below.

Because schools exist in a culturally pluralistic society, teaching credential candidates are also encouraged to take courses in the Chicano studies, Afro-ethnic studies and American Indian studies programs.

MULTIPLE SUBJECT (ELEMENTARY) PROFESSIONAL PREPARATION PROGRAM

The multiple subject professional preparation program is a two-semester sequence as follows:

First Semester:
Ed-TE 430A Foundations in Elementary School Teaching (3)
Ed-TE 430B Curriculum and Methods in Elementary School Teaching (1)
Ed-TE 430C Supervised Fieldwork in Elementary Teacher Education (3)
Ed-TE 433 Reading Instruction in the Public Schools (3)
Ed-TE 439A Student Teaching in the Elementary School (4)
Ed-TE 439B Seminar in Elementary Student Teaching (1)

Second Semester:
Ed-TE 429 Individualized Instruction (3)
Ed-TE 430B Curriculum and Methods in Elementary School Teaching (2)
Ed-TE 439A Student Teaching in the Elementary School (8)
Ed-TE 439B Seminar in Elementary Student Teaching (2)

Both semesters of the program entail a commitment from 8 a.m. to 4 p.m. Monday through Friday, plus additional time for preparation.

ADMISSION PROCEDURES AND CRITERIA: Admission to the university does not include admission to the multiple subject professional preparation program. Students must apply for admission into the multiple subject credential program the semester prior to anticipated enrollment in the program. Filing deadlines are February 28 (to begin the program the following fall) and September 30 (to begin the program the following spring).

Applications for admission into the multiple subject professional preparation program are evaluated according to the following criteria:

1. Scholarship (minimum grade-point average of 2.5 in all university and college work).
2. Breadth of understanding of subject matter relevant to multiple subject instruction.
3. Proficiency in mathematics, reading comprehension and written and spoken English expression.
4. Specified personality and character traits relevant to teaching.
5. Experience in working with young people.
6. Good mental and physical health.
7. Certificate of clearance with respect to absence of criminal record.
8. Passage of the California Basic Education Skills Test.

Details concerning admission procedures and criteria are available in the Credential Preparation Center.

Admission to the second semester of student teaching is based on continuous and satisfactory progress in the program.

BILINGUAL-BICULTURAL EMPHASIS PROGRAM

A multiple subject professional preparation program with a bilingual-bicultural (Spanish-English) emphasis is available. Information about this program is available in the Credential Preparation Center.

SINGLE SUBJECT (SECONDARY) CREDENTIAL PROGRAM

A single subject credential authorizes service as a teacher in a classroom in which a single subject is taught.

For purposes of public school planning and staffing, the Commission for Teacher Preparation and Licensing has identified fifteen general categories or single subject areas within which subjects commonly taught in junior and senior high schools are considered to be subsumed.

The single subject areas are intended to encompass broad areas of preparation as well as providing opportunity for specialization in specific subjects in order to meet the needs of California school districts. Assignment of teachers to specific classes depends upon the amount of course work in specific subjects as well as the single subject credential held.

Cal State Fullerton offers professional preparation for the following single subject credentials: art, business, English, foreign languages (French, Spanish and German), history, life sciences, mathematics, music, physical education, physical science, and social science.

Requirements for a *clear* single subject credential are: (Students may be recommended for a *preliminary* single subject credential upon completion of requirements 1–5. Requirements 6–8 must be completed within five years from the date of issuance of the preliminary credential.)

1. A baccalaureate (or higher) degree, except in professional education, from an institution approved by the Commission for Teacher Preparation and Licensing.
2. Satisfactory completion of at least two semester units of work on the provisions and principles of the Constitution of the United States or passage of a satisfactory examination.
3. An approved program of professional preparation, including student teaching. The approved professional preparation program at Cal State Fullerton is described below.
4. Demonstration of a knowledge of the various methods of teaching reading. This requirement may be met by passage of a commission-approved reading examination or completion of an approved program of study. Ed-TE 440R (Instruction in Reading for Secondary School Teaching) meets this requirement at Cal State Fullerton. This requirement is optional for candidates in art, music, and physical education.
5. Demonstration of subject matter competence in one of the following ways:
   a. Successful passage of a commission-approved subject matter examination. (Information about approved examinations is available in the Credential Preparation Center.)
   b. Completion of a program of study approved by the Commission for Teacher Preparation and Licensing as a waiver of the examination. The following degree programs have options which have been approved as waiver programs for the specified single subject credential. This approval is in effect through December 31, 1983. Students wishing to pursue a single subject credential after that date should contact the Credential Preparation Center for current program listings.

   Degrees with approved waiver program options:
   B.A. in Art (Art Credential)
   B.A. in Business Administration (Business Credential)
   B.A. in Communication (Journalism emphasis; English Credential)
   B.A. in Drama/Theatre (English Credential)
   B.A. in English (English Credential)
   B.A. in Speech (English Credential)
   B.A. in French (Foreign Languages—French Credential)
   B.A. in German (Foreign Languages—German Credential)
   B.A. in Spanish (Foreign Languages—Spanish Credential)
   B.A. in American Studies (History Credential)
   B.A. in History (History Credential)
   B.A. in Biological Science (Life Sciences Credential)
   B.A. in Mathematics (Mathematics Credential)
   B.A. in Music (Music Credential)
   B.S. in Physical Education (Physical Education Credential)
   B.A. in Biological Science (Physical Science Credential)

B.A. in Chemistry (Physical Science Credential)
B.S. in Earth Science (Physical Science Credential)
B.A. in Physics (Physical Science Credential)
B.A. in American Studies (Social Science Credential)
B.A. in Ethnic Studies (Chicano Studies Option) (Social Science Credential)
B.A. in History (Social Science Credential)
B.A. in Psychology (Social Science Credential)

Candidates enrolled prior to June 30, 1975, should consult the Secondary Coordinator concerning the waiver status of their degree program. All candidates should consult with departmental advisers concerning the waiver program under their degree program.

6. A fifth year of college or university postgraduate education taken at the upper division or graduate level.
7. Satisfactory completion of a unit requirement in health education (including, but not limited to, emphasis on the psychological and sociological effects of abuse of alcohol, narcotics, and drugs and the use of tobacco). At Cal State Fullerton, Ed-TE 314, Health Education 321 or Health Education 410 meets this requirement. The health education requirement may be completed concurrently with the professional preparation program described below.
8. Satisfactory completion of training in the needs of, and methods of providing educational opportunities to, individuals with exceptional needs. At Cal State Fullerton, Ed-TE 411 or Sp Ed 411 meets this requirement. Ed-TE 411 may be completed concurrently with the professional preparation program described below.

Because schools exist in a culturally pluralistic society, teaching credential candidates are also encouraged to take courses in the Chicano Studies, Afro-ethnic Studies, and American Indian Studies Programs.

SINGLE SUBJECT (SECONDARY) PROFESSIONAL PREPARATION PROGRAM

The single subject professional preparation program is a two-semester sequence as follows:

First Semester

Ed-TE 440F	Supervised Fieldwork in Secondary Schools (2)
Ed-TE 440R	Instruction in Reading for Secondary School Teaching (3) (Optional for candidates in art, music and physical education)
Ed-TE 440S	Foundations of Secondary School Teaching (4)
Ed-TE 442	Teaching—in the Secondary School (3) (Methods class is offered by either the major department; e.g., English Education 442; or in the Division of Teacher Education: Ed-TE 442.)

Second Semester

Ed-TE 449A	Student Teaching in the Secondary School (10)
Ed-TE 449B	Student Teaching Seminar (2)

(Student teaching and the seminar courses are offered by either the major department; e.g., English Education 449A and 449B; or the Division of Teacher Education: Ed-TE 449A and 449B.)

Both semesters of the program entail a commitment from 8 a.m. to 3 p.m., Monday through Friday, plus additional time for preparation.

The curriculum for the first semester is a block of courses integrated with fieldwork. Students are assigned to specific learning centers, but arrangements can be made for work with master teachers outside of the learning center districts. The second semester is a semester of full-time student teaching.

ADMISSION PROCEDURES AND CRITERIA

Admission to the university does not include admission to the single subject professional preparation program. Students must apply for admission into the single subject credential program the semester prior to anticipated enrollment in the program. Filing deadlines are February 28 (to begin the program the following fall) and September 30 (to begin the program the following spring).

Applications for admission into the single subject professional preparation program are evaluated according to the following criteria:

1. Scholarship (minimum grade-point average of 2.75 in all college and university work: minimum grade-point average of 3.0 in major).
2. Breadth of understanding of subject matter relevant to single subject instruction.
3. Proficiency in reading comprehension and written and spoken English expression.

4. Specified personality and character traits relevant to teaching.
5. Work experience with young people.
6. Good mental and physical health.
7. Certificate of clearance with respect to absence of a criminal record.
8. Passage of the California Basic Education Skills Test.

Details concerning admission procedures and criteria are available in the Credential Preparation Center.

Admission to the second semester of student teaching is based on continuous and satisfactory progress in the program. Evaluations come from cooperating secondary school teachers and faculty working with the candidates in the program. Since student teaching is done on a full-time basis, student teachers will be limited to one additional course for that semester taken only in the late afternoon or evening.

Within the program of preparation for teaching a single subject it is possible to elect an emphasis in teaching in secondary alternative schools; that is, different kinds of public school programs designed to meet diverse needs of students, teachers and parents. The student electing the emphasis in educational alternatives will be registered in the same courses but will focus much attention on current efforts to reform, improve and revitalize secondary education. Students interested in the secondary alternative schools emphasis may obtain additional information from the secondary coordinator.

APPLICATION FOR TEACHING CREDENTIALS

Upon completion of a credential program (multiple subject, single subject, or any specialist or services credential) the credential candidate must submit an application to the Commission for Teacher Preparation and Licensing through the Cal State Fullerton credential analyst. The credential analyst is located in the Credential Preparation Center. Additional information on the credential application process is available in the Credential Preparation Center.

BILINGUAL/CROSS-CULTURAL SPECIALIST CREDENTIAL (Spanish-English)

Eligibility for a Bilingual/Cross-Cultural Specialist Credential, authorized by the Teacher Preparation and Licensing Law of 1970 (Ryan Act), is offered through a 30-unit program developed cooperatively by the Department of Chicano Studies, the Department of Foreign Languages and Literatures, and the School of Human Development and Community Service working with the university's Board of Bilingual/Cross-Cultural Studies. The program develops specific competencies for teachers and resource personnel in bilingual/cross-cultural programs from kindergarten through the 12th grade. The credential program includes experiences in language and culture of the target population, techniques and methods for bilingual/cross-cultural education, linguistics, fieldwork and community involvement planned to coordinate with a candidate's personal teaching schedule.

Admission to the Bilingual/Cross-Cultural Specialist Credential Program

Admission to the Bilingual/Cross-Cultural Specialist Credential Program requires:

1. the possession of a teaching credential (elementary or secondary), or concurrent enrollment in a program leading to either a single or multiple subject credential;
2. written and oral knowledge of the Spanish language at the equivalent of a level 2 on the FSI at entry and a level 3 on the FSI upon exit. This will be assessed by a formal assessment instrument;
3. passage of the California Basic Education Skills Test; and
4. a GPA of at least 2.8, both in the major and overall. While it is not required, it is strongly advised that candidates have prior experiences with children and youth groups in bilingual communities and/or other settings.

Application information and materials are available in the Credential Preparation Center.

Program of Study

The following course work will be developed into a study plan in consultation with an adviser:

Required:

Foreign Language Education 443 Methods of Teaching English as a Second Language (3)
Education 454 Bilingual Education in the United States (3)
Education 461 Instructional Techniques in Bilingual Education (3)
Education 462 Fieldwork in Bilingual Education (3)
Education 463 Spanish Reading and Language Arts (3)
Spanish 466 Introduction to Spanish Applied Linguistics (3)

One of the Following:

Spanish 467 Dialectology: Current Trends in Modern Spanish (3)
Spanish 468 Spanish-English Contrastive Analysis (3)

Select Nine Units from the Following. A maximum of 3 units may be taken at the 300 level.

Chicano Studies 305 The Chicano Family (3)
Chicano Studies 306 Barrio Studies (3)
Chicano Studies 403 Cultural Differences in Mexico and the Southwest (3)
Chicano Studies 420 Spanish for the Elementary School Teacher in the Barrio (3)
Chicano Studies 430 The Evolution of Mexican Literature (3)
Chicano Studies 431 The Chicano Child (3)
Chicano Studies 438 Issues in Bilingual/Cross-Cultural Education (3)
Chicano Studies 445 History of the Chicano (3)
Chicano Studies 450 The Chicano and Contemporary Issues (3)
Chicano Studies 453 Mexico Since 1906 (3)

Students who have had equivalent experience prior to entry into the program, should see the program coordinator for advice on receiving credit for demonstrated competence.

TEACHER EDUCATION COURSES

210 The Teaching Experience: Exploration (3)
Exploration of one's self in relation to other people in the schools and an encounter with the teaching experience, through fieldwork. Accompanying seminar to help students extend their observations and explore relevant issues. (4 hours fieldwork, 1 hour seminar) (Credit/no credit only)

310 The Teaching Experience: Participation (3)
Active participation in school classrooms and analysis of the experience. Accompanying seminar will help students to analyze their fieldwork experiences. (4 hours fieldwork, 1 hour seminar) May be repeated with consent of instructor. (Credit/no credit only)

312 Human Growth and Development (3)
Prerequisite: Psychology 101. Human growth and development. Childhood, adolescence and middle and old age. Mental, social, emotional and physical development. (Same as Child Development 312)

314 Drugs and Human Development (1)
Substance abuse in relation to personal development, social stress, and physiological and psychological effects. Methods of exploring values and making decisions in regard to substance abuse.

331 Infant Education (3)
Prerequisite: Associate of Arts degree with a major in child development or early childhood education or equivalent. A survey of models and processes for infant education. Procedures for enrichment, stimulation of development, and assessing readiness and progress. Intervention strategies in relation to developmental processes including linguistic, cognitive, social and emotional development.

335 Educating the Non-English Speaking Parent (3)
Prerequisite: Associate of Arts degree with a major in child development or early childhood education or equivalent. The role of non-English speaking parents in helping their children be successful in school. What parents need to be aware of, and what they can do at home and at school. How teachers can use parents as teachers.

385 Infancy and Early Childhood (3)
Prerequisites: Child Development/Ed-TE 312 or Psychology 361. The physical growth and social and personality development of the human through the sixth year of life. (Same as Child Development 385)

386 Adolescence (3)
Prerequisites: Child Development/Ed-TE 312 or Psychology 361. The physical, social and cultural development of human adolescents and youth. Contemporary factors producing change. (Same as Child Development 386)

390 Middle Childhood (3)
(Same as Child Development 390)

401 Social Foundations of Education (3)
Philosophical, historical and sociological foundations of education; their influence on contemporary educational theory and practice in the United States.

406 Educational Sociology (3)
The school in the social order; the school as a social system; analysis of cultural factors affecting the school; the special culture of the school; roles and role conflicts in the school; policy questions flowing from social issues and school-cultural relationships.

410 The Teaching Experience: Field Investigation (3)
Prerequisite: consent of instructor. Field investigation in area of interest. Needs assessment, study proposal, implementation of study and presentation of findings. Accompanying seminar. (4 hours fieldwork, 1 hour seminar) (Credit/no credit only)

411 Mainstreaming for Teachers (3)
(Same as Special Education 411)

429 Individualized Instruction (1–3)
The principles and operational components of individualized teaching and learning. Classroom implementation of individualized instructional strategies. May be repeated for a maximum credit of 3 units.

430A Foundations in Elementary School Teaching (3)
Prerequisite: admission to teacher education. Children's learning styles, and their overall growth and development. To be taken concurrently with Ed-TE 430B,C and 433.

430B Curriculum and Methods in Elementary School Teaching (1–3)
Prerequisite: admission to teacher education. Elementary school curricula, instructional materials, and teaching techniques. To be taken concurrently with Ed-TE 430A,C, and 433.

430C Supervised Fieldwork in Elementary Teacher Education (3)
Prerequisite: admission to teacher education. Corequisites: Ed-TE 430A,B and 433. Students will serve as teacher participants in an assigned elementary school classroom.

433 Reading Instruction in Public Schools (3)
Prerequisite: admission to teacher education. The teaching of reading. The behaviors necessary to work with children in public school.

434 Children's Rights and Services (3)
Prerequisite: Associate of Arts degree with a major in child development or early childhood education or equivalent. Analysis of the scope of the appropriate role of government vis-à-vis children and their families. Outline of framework for the distribution of decisional power among the child, the family, and various public and private agencies.

437 Early Childhood Education (3)
Current literature and recent research in the education of young children through individual and group study. Problems in cognitive processes, content, structure and instruction at this level.

439A Student Teaching in the Elementary School (4–12)
Prerequisites: Ed-TE 430A,B,C, 433 and admission to student teaching. Corequisite: Ed-TE 439B. Participation in a regular elementary school teaching program for the full school day.

439B Seminar in Elementary Student Teaching (1–3)
Prerequisites: Ed-TE 430A,B,C, 433 and admission to student teaching. Corequisite: Ed-TE 439A. Seminar in problems and procedures of elementary school teaching.

440F Supervised Fieldwork in Secondary Schools (2)
Prerequisites: admission to teacher education. Observation and participation in instruction in secondary school learning centers 3 hours daily. Fieldwork associated with Ed-TE 440R, 440S and 442. Taken concurrently with the courses.

440R Instruction in Reading for Secondary School Teaching (3)
Prerequisites: admission to teacher education. Instruction in developmental reading for prospective teachers in single subjects. Taken concurrently with Ed-TE 440F, 440S and 442.

440S Foundations of Secondary School Teaching (4)
Prerequisites: admission to teacher education. Teaching competencies related to adolescent development, the learning process and diagnosis of learning problems, evaluation of pupil achievement, and cultural differences in secondary school youth. Taken concurrently with Ed-TE 440F, 440R and 442.

441 Reading In Early Childhood (3)

Prerequisites: consent of instructor or student teaching. Strategies and problems of teaching reading to young children. Recent research in the fundamental skills of communication among pupils in the preschool, kindergarten, and primary grades. Curriculum developments and materials.

442 Teaching—in the Secondary School (3)

Prerequisite: admission to teacher education. Strategies and techniques for teaching a specified subject in the secondary school. Required before student teaching in the specified single subject credential area.

Art Ed 442 Teaching Art in the Secondary School
Ed-TE 442 Teaching Business in the Secondary School
Ed-TE 442S Teaching Social Science in the Secondary School
Engl Ed 442 Teaching English in the Secondary School
For Lang Ed 442 Teaching Foreign Languages in the Secondary School
Journ Ed 442 Teaching Journalism in the Secondary School
Math Ed 442 Teaching Mathematics in the Secondary School
Mu Ed 442 Principles and Methods of Teaching Music in the Public Schools
PE 442 Teaching Physical Education in the Secondary School
Sci Ed 442 Teaching Science in the Secondary School
Speech Ed 442 Teaching Speech in the Secondary School
Theatre Ed 442 Teaching Theatre in the Secondary School

446 School Law for Teachers (3)

Prerequisite: senior or graduate standing or consent of instructor. The legal aspects of professional rights and responsibilities of teachers and student teachers. Authority sources; teacher duties and responsibilities; employment, termination, certification, contracts, tenure and employee relations; and liability of teachers.

449A,B Student Teaching in the Secondary School and Seminar (10,2)

Prerequisite: admission to student teaching. Full-time student teaching in a specified single subject credential area. Seminar in problems and procedures of teaching in secondary schools.

Art Ed 449 Teaching Art in the Secondary School
Ed-TE 449 Teaching Business in the Secondary School
Ed-TE 449 Teaching Social Science in the Secondary School
Engl Ed 449 Teaching English in the Secondary School
For Lang Ed 449 Teaching Foreign Languages in the Secondary School
Journ Ed 449 Teaching Journalism in the Secondary School
Math Ed 449 Teaching Mathematics in the Secondary School
Mu Ed 449 Principles and Methods of Teaching Music in the Public Schools
PE 449 Teaching Physical Education in the Secondary School
Sci Ed 449 Teaching Science in the Secondary School
Speech Ed 449 Teaching Speech in the Secondary School
Theatre Ed 449 Teaching Theatre in the Secondary School

451 Trends and Issues in Parenting (3)

Prerequisite: Associate of Arts degree with a major in child development or early childhood education or equivalent. Study of those influences accompanying the complexities of life in a rapidly changing world which impact upon traditional patterns of parenting. Diverse patterns of parenting, including single parenting, alternative modes of response by parents to the problems of childrearing.

452 Practicum in Infant/Parent Education (4)

Prerequisites: Ed-TE 451, Trends and Issues in Parenting and Ed-TE 331, Infant Education. Supervised practical experience with parents of infants or young children in selected community settings.

454 Bilingual Education in the United States (3)

Prerequisites: some knowledge of bilingual education. The literature, the laws, the history and the impact bilingual educational programs have had on the speaker of the foreign languages in the United States.

461 Instructional Techniques in Bilingual Education (3)

Prerequisites: Ed-TE 454, Foreign Language Ed 443. Purposes, philosophies and concepts of bilingual education. Theories of language learning, cultural differences in learning processes and methodologies of bilingual instruction.

462 Fieldwork in Bilingual Education (3)
Prerequisite: Ed-TE 461. Fieldwork in bilingual settings, for the Bilingual/Cross-Cultural Specialist Credential. The student must be enrolled in the second semester of training.

463 Spanish Reading and Language Arts for the Bilingual Classroom (3)
Prerequisites: Ed-TE 461, knowledge of Spanish (intermediate level) and postbaccalaureate standing or consent of instructor. Theories and methods for Spanish reading instruction. Methods and materials for teaching Spanish language arts including grammar, composition and spelling.

499 Independent Study (1–3)
Prerequisites: senior or graduate standing, consent of instructor and division prior to registration. Individual investigation under supervision of a faculty member. Only students of demonstrated capacity and maturity will be approved. May be repeated for credit.

500 Development and Implementation of Bilingual-Bicultural Curriculum (3)
Identification and development of bilingual-bicultural curricula relative to Spanish-speaking students. Adaptation and modification or existing curricula. Development of units of instruction for use in bilingual-bicultural classrooms.

501 Philosophy of Education (3)
Prerequisites: postgraduate standing and Ed-TE 339 or 439A,B or consent of instructor. Theories of knowledge, value and reality, and educational problems; contemporary systems of thought and education.

509 Construction, Analysis and Interpretation of Educational Tests (3)
Prerequisite: enrollment in M.S. Education or consent of instructor. Theory and procedures for constructing informal and standardized tests. Measurement theory, statistics and computer techniques for testing and interpreting test results. Item writing and analysis of standardized tests.

511 Survey of Educational Research (3)
Descriptive statistics and statistical inferences in educational research. Representative research papers. Principles of research design. Prepare papers using research findings.

526 Differentiated Staffing in Public Schools (3)
Prerequisite: teaching credential or consent of instructor. Seminar: the processes and techniques in working with parents, paraprofessionals, specialists and community people. Supervision and interaction with adults.

527 Graduate Seminar in Developmental Psychology: The Human from Conception Through Eight Years (3)
Prerequisites: Ed-TE 312 or equivalent, teaching credential or consent of instructor. The physical, social, cognitive-intellectual and emotional development of human individuals from conception to middle childhood. Current problems, theories and research.

529 Graduate Studies: Learning Theory for Classroom Use (3)
Major theoretical positions in planning and interpreting classroom practices. Educational research findings, implications for curriculum developments and teaching practices.

530 Graduate Studies in Elementary Education: Second Languages (3)
Prerequisites: teaching credential or consent of instructor. Seminar: significant research, curriculum developments and materials, criteria for planning and improving second language programs including those for English as a second language.

531 Graduate Studies in Elementary Education: Language Arts (3)
Prerequisite: teaching credential or consent of instructor. Seminar: significant research, trends and problems in teaching the fundamental skills of communication. Curriculum developments and materials, and criteria for planning and improving language arts programs.

532 Graduate Studies in Elementary Education: Mathematics (3)
Prerequisites: Math Ed 103A, Ed-TE 439A,B or consent of instructor. Seminar: significant research, curricular developments and materials, criteria for planning and improving mathematics programs and instruction.

533 Graduate Studies in Elementary Education: Science (3)
Prerequisite: Ed-TE 439A,B, or consent of instructor. Seminar: research in elementary school science. The development of materials.

534 Graduate Studies in Elementary Education: Social Studies (3)
Prerequisite: Ed-TE 339 or 439A,B, or consent of instructor. Seminar: research developments and materials, criteria for planning and improving social studies programs and current techniques of teaching.

535 Graduate Studies in Elementary Education: Reading (3)
Prerequisite: teaching credential or consent of instructor. Seminar: research developments and materials, criteria for planning and improving reading programs, and current instructional strategies.

536 Curriculum Theory and Development in the Elementary School (3)
Prerequisite: Ed-TE 439A,B, or consent of instructor. Seminar: the elementary school curriculum including the forces operating on the curriculum and the participants involved in curriculum building. The process of curriculum building.

537 Graduate Studies: Current Issues and Problems (3)
Prerequisite: Ed-TE 439A,B, or consent of instructor. Problems and issues in elementary education, their causes and possible solutions.

538 Graduate Studies: Early Childhood Education (3)
Prerequisite: teaching credential or consent of instructor. Seminar: Application of significant research in the education of young children. Current instructional strategies and criteria for planning and improving programs in early childhood education.

539 Clinical Supervision: Analyzing Effective Teaching (3)
Prerequisite: teaching credential. A systematic, research-based approach. Identifies basic components needed by teachers, staff developers, and administrators to improve their instructional skills. Includes principles of learning applied to supervision and applied practice in analyzing the instructional process.

541 Psychological and Sociological Foundations of Bilingual-Bicultural Education (3)
Application of psychological and sociological theory and techniques to the design of programs of instruction for limited and non-English-speaking children. The use of these disciplines for the development of emotionally and socially supportive learning environments.

542 Current Issues and Problems in Bilingual-Bicultural Education (3)
Problems and issues in the development and implementation of bilingual-bicultural education.

550 Instructional Strategies (4)
Prerequisite: baccalaureate degree or consent of instructor. A general course in pedagogy designed for students whose professional work involves instructional responsibilities. General teaching strategies, course design, instructional planning, and student evaluation are emphasized.

551 Program Evaluation in Education (3)
Prerequisite: Ed-RP 510 or Ed-TE 511 or equivalent. Methods of evaluating educational programs. Analysis of the models, theories, and underlying assumptions of evaluation. Data-gathering methods, analysis of data and preparation of reports.

553 Models of Teaching (3)
Prerequisite: teaching credential or consent of instructor. Explores varied strategies of instruction, culminating in the identification and study of sixteen unique "models." Examines relationships among theories of learning and instruction. Investigates various instructional alternatives.

591A Fieldwork and Seminar in Early Childhood (3)
Prerequisite: Ed-TE 538 or consent of instructor. Provides opportunity to demonstrate instructional abilities in working with young children. Also provides opportunity to work with parents, professionals and members of the community in early childhood programs.

591B Fieldwork and Seminar in Early Childhood (3)
Prerequisite: Ed-TE 538 and 591A, or consent of instructor. Provides opportunities to demonstrate supervisory, coordinating and administrative abilities in working with children, parents, professionals and members of the community in the development of early childhood education programs.

594 Research Seminar (3)
Prerequisite: consent of instructor. The preparation, evaluation, development, and presentation of curriculum research proposals and projects. Individuals and groups will participate in critiquing proposals, curriculum projects, and research results.

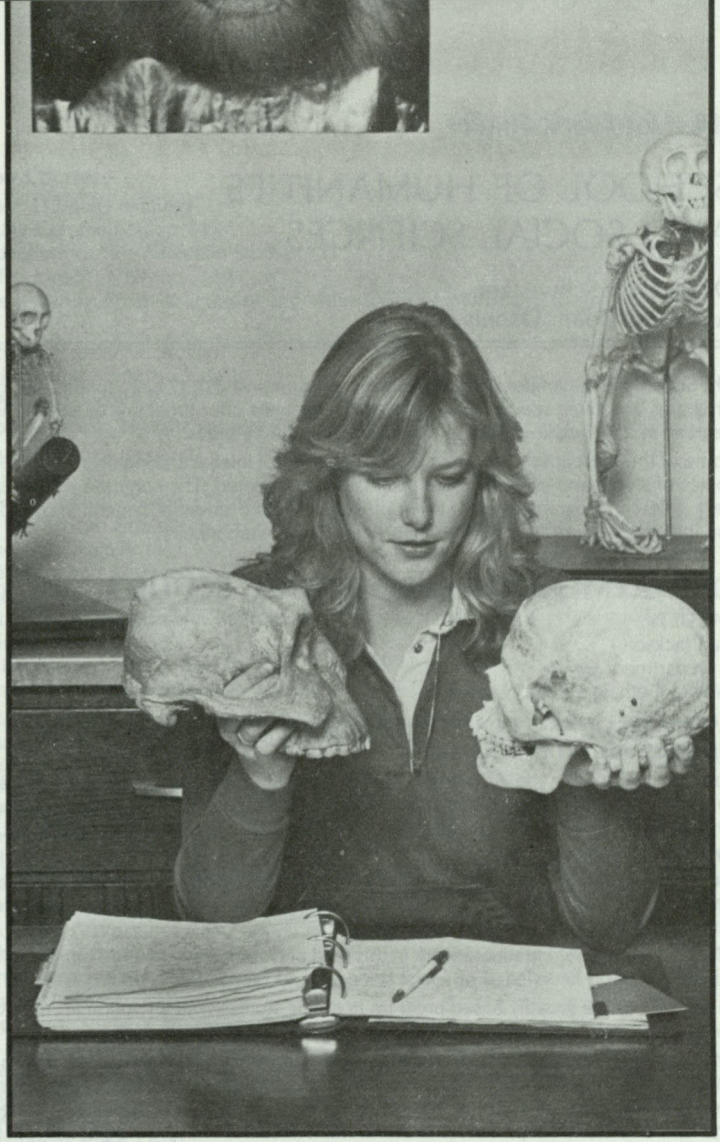
595 Advanced Studies (1–3)
Graduate seminars in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1–3)
Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1–3)
Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1–3)
Prerequsites: a teaching credential and one year of teaching experience. Independent inquiry.

701 Credential Studies (0)
For students admitted to teacher education who find it impossible to maintain continuous enrollment while completing the 30 units beyond the baccalaureate.



HUMANITIES AND SOCIAL SCIENCES

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

Dean: Don Schweitzer
Associate Dean: Dennis Berg

The School of Humanities and Social Sciences is composed of 17 departments, five cross-disciplinary programs and three special study centers. These units offer programs of study leading to bachelor degrees in 23 disciplines and to masters degrees in 19 areas.

Some of these programs represent traditional areas of intellectual inquiry, others focus on emerging topics of study, and still others are professionally oriented. The common elements that unite these very different programs are the value of expanding the students' general knowledge, the worth of the intellectual pursuits, and the importance of humane inquiry.

DEPARTMENT OF AFRO-ETHNIC STUDIES

FACULTY
Carl Jackson
Department Chair
Wacira Gethaiga, Boaz Namasaka

BACHELOR OF ARTS IN AFRO-AMERICAN STUDIES OPTION OF ETHNIC STUDIES UNDERGRADUATE PROGRAM

Students majoring in the Afro-ethnic studies program have a special preparation in and sensitivity to the black experience as it relates to the life in America as a part of a world community. The program is multidisciplinary in nature in that all aspects of Afro-ethnic studies affect and are affected by other programs.

Graduates from the Afro-ethnic studies program have gone into careers in teaching, community development, community leadership, social work, urban research, law, civil service, industrial relations and a variety of comparable fields.

Many have gone into graduate work in this field and some have entered more traditional disciplines where a general knowledge of social sciences and humanities is prerequisite.

In addition to the broadly based program in ethnic studies with an option in Afro-American studies, the department provides course work in the American Indian experience.

The purpose of the department is to provide an opportunity for majors and non-majors to become specialists in understanding the problems, achievements, contributions and failures of America's largest and smallest minority groups; to help these students to academically understand the black and native American experiences in the United States and within a world setting in terms of the past and contemporary problems and issues, and to enable them to lead effective and constructive lives in a culturally pluralistic and rapidly changing society.

A minor in the Afro-American option is available for students majoring in other academic fields. The degree program also is designed to provide an effective vehicle for meeting a variety of needs in contemporary higher education: extending opportunities for university education to students who have long been under-represented due to cultural differences between their experiences and the cultural emphasis of higher education; and revising curriculum and promoting research to give all students and faculty an understanding of the interaction of ethnic groups in past and contemporary civilizations.

The required minimum for the major is 36 units: Afro-Ethnic Studies 103,* 107, and 240A,B or 220 plus a minimum of 24 units in upper-division courses.

Lower-Division Courses

A. Core Courses (12 units required)
- 103 Effective Communication (3) *
- 107 Introduction to Afro-American Studies (3)
- 240A,B Afro-American History (3,3) *or*
  - 220 The Indian in American History and either 240A or 240B (6)

B. Electives
- 101 Introduction to Ethnic Studies (3)
- 108 Linguistics and Minority Dialects (3)
- 255 The Age of Malcolm X (3)

Upper-Division Courses: 24 units required

A. Core Courses (18 units required)
1. Nine units from:
   - 301 Afro-American Culture (3) *or*
     - 346 The African Experience (3)
   - 309 The Black Family (3)
   - 331 Tribalism and Reservation Life (3)
2. Nine units from:
   - 311 Intracultural Socialization Patterns (3)
   - 335 History of Racism (3)
   - 385 Schools and Minority Groups (3)
   - 436 American Indian Religions and Philosophy (3)

B. Electives (6 units required)

At least 6 units from the electives indicated below:
- 300 Black Man/Black Woman (3)
- 314 Pan-African Dance and Movement (3)
- 315 Pan-African Art (3)
- 332 American Indian Leaders (3)
- 334 Equal Employment Opportunity Laws (3)
- 352 African Literature (3)
- 410 Afro-American Literature (3)
- 411 Black Writers' Workshop (3)
- 422 Psychology of the Afro-American (3)
- 431 Southwestern Indians (3)
- 434 American Indian Education (3)
- 440 Comparative Study of European, American and African Literature (3)
- 460 Afro-American Music Appreciation (3)
- 463 Black Music Ensemble (3)
- 483 Black Child and the Educational Systems (3)
- 497 Ethnic Internship (3)
- 499 Independent Study (1–3)

MINOR IN AFRO-AMERICAN STUDIES

Students interested in the Afro-American studies minor are required to take a minimum of 21 units. This includes six units of lower-division courses including Afro-Ethnic Studies 101 or 107 and an additional course. Fifteen units of upper-division courses including Afro-Ethnic Studies 301 and 309 also must be taken.

Lower-Division Courses (6 units required)
- 107 Introduction to Afro-American Studies (3) *or*
  - 101 Introduction to Ethnic Studies (3)
- An additional course

Upper-Division Courses (15 units required)
- 301 Afro-American Culture (3) *or*
  - 346 The African Experience (3)
- 309 The Black Family (3)
- Additional nine units from the upper-division electives

Note: If the history requirements have been met, alternative courses will be suggested by the department adviser.

---

* Students can be exempted from Afro-Ethnic Studies 103 by an examination and/or consent of department.

AFRO-ETHNIC STUDIES COURSES

101 Introduction to Ethnic Studies (3)
The perspective through which black and brown people have come to see themselves in terms of their own heroes, culture and contributions to societies in which they live and world society in general.

103 Effective Communication (3)
The basic skills, emphasizing writing and communication skills, stressing the use of idioms, proper pronunciation, intonation and correct English patterns.

107 Introduction to Afro-American Studies (3)
The aims and objectives of the Afro-American studies. The basic terms and references that give substance to Afro-American studies.

108 Linguistics and Minority Dialects (3)
(Same as Linguistics 108)

220 The Indian in American History (3)
A chronological study of the history of the American Indian people and their struggle for survival from the pre-European era to present.

240A Afro-American History to 1865 (3)
The economic, political and social history of black Americans in the United States, African origins, the slave trade, slavery, religion, abolition, slavery and territory and the Civil War.

240B Afro-American History from 1865 to Present (3)
The social, economic, political and cultural history of black Americans. The black reconstruction role, Jim Crow, the relationship between black workers and white workers and labor unions, lynching, black protest, World War I, black emigration, the Harlem renaissance, the New Deal, World War II, the intensification of the black emigration, the civil rights movement, the Korean War, Vietnam War, the black power movement and cultural developments.

255 The Age of Malcolm X (3)
The ideas and ideals of Malcolm X; their roots, their impact on local, state, national and international levels. Compared with W. E. B. DuBois and Martin Luther King.

300 Black Man/Black Woman (3)
Black value systems, double standards, machismo figure, communication barriers caused by predefined roles, stereotype expectations according to the traditional class status, and their affect on individual abilities and self-esteem.

301 Afro-American Culture (3)
African cultural characteristics in the New World and contemporary events, including art, ideas, dance and literature.

309 The Black Family (3)
The American social conditions that shaped the black family from the African cultural patterns to the family that exists today. The roles of poverty, racism and discrimination.

311 Intracultural Socialization Patterns (3)
Patterns of role learning as they vary within subpopulations; changes over time in the values, attitudes, and goals of both the general culture and of subcultures; stereotypes and realities; understanding and dealing with cultural variation as well as cultural "norms." (Same as Human Services 311)

314 Pan-African Dance and Movement (3)
Theory and practice of movement of African and Haitian peoples. Movement (dance) as quasi-language in perpetuating the life style of African cultures and cultures of African descent.

331 Tribalism and Reservation Life (3)
Tribalism in contemporary Indian affairs. Indian self-determination on reservations; political, economic and social lifeways relative to the dominant society: Field trips to local reservations.

332 American Indian Leaders (3)
The diverse philosophies of American Indian leaders; the political, sociological and religious aspects of their lives, and the impact on Indian-white relationships.

335 History of Racism (3)
Racism in terms of the historical roots of that racial phenomenon in American society and the world setting.

346 The African Experience (3)
African history from the origin of the black man and traditional African civilization through the African diaspora to the institutional realities of Africa today.

352 African Literature (3)
(Same as English 352 and Comparative Literature 352)

385 Schools and Minority Groups (3)
The prevailing educational practices in regard to minority groups in elementary school through college, including minority students' failure patterns, what is being done to change failures, and the outcomes of these practices.

410 Afro-American Literature (3)
The literary contributions by major black American authors. Contemporary black writers and the recurring themes of protest and quest for identity.

411 Black Writers' Workshop (3)
Writing prose, fiction, drama, short stories, book reviews, poetry and essays from the perspective of the black experience.

422 Psychology of the Afro-American (3)
Black identity and the life styles that have risen from racism. The socioeconomic, political, cultural conditions which have fostered the blackness concept and the psychological devices used by blacks to survive.

431 Southwestern Indians (3)
Indian tribes of the Southwestern United States; Anasazi, Mogollon and Hobokam. Cultural changes and assimilation.

434 American Indian Education (3)
Prerequisites: Afro-Ethnic Studies 220 and 331 or consent of instructor. Legislation which affects education. Field activities. Observations in public and government facilities.

436 American Indian Religions and Philosophy (3)
Prerequisite: Afro-Ethnic Studies 331 or consent of instructor. Examination of American Indian religious and philosophic perspectives. Survey of religious interpretations and thought in various facets of belief ranging from traditional Indian religion to Christianity. Contemporary religious activities will be highlighted.

460 Afro-American Music Appreciation (3)
Black music in America; the sociological conditions that help produce various forms of black music.

483 Black Child and the Educational System (3)
The cultural impact of traditional American educational system upon the black child. Civil rights acts and the black child; separate and equal doctrine, desegregation school plan, Article 3.3, the Stull Act, and sociological and psychological problems in the black community.

497 Ethnic Internship (3)
Career opportunities in industry and social services. Students work up to 20 hours per week and meet weekly for guidance. Supervision by instructor and cooperating agencies. Can be repeated for credit. (Same as Chicano Studies 497)

499 Independent Study (1–3)
Prerequisites: senior level and acceptance of the subject by department chair and instructor directing the study.

DEPARTMENT OF AMERICAN STUDIES

FACULTY
John Ibson
Department Chair
Allan Axelrad, Jesse Battan, Wayne Hobson, Karen Lystra, Michael Steiner, E. James Weaver, Leila Zenderland

BACHELOR OF ARTS IN AMERICAN STUDIES

American studies is a field that intensively examines the American cultural environment, past and present. The B.A. program is built around a core of work in the discipline of American studies itself but it requires work in related fields to discover the relationships among disciplines as they analyze the American experience. At the center of American studies training is the analysis of culture, that

complex system of belief, behavior, symbols and material objects through which Americans give meaning to their lives.

American studies is sound preparation for careers in which a thorough understanding of American culture is important, such as law, government, business, journalism, library work and other services. The B.A. program also serves as a foundation for advanced study at the graduate level.

Two alternative programs are available and consultation with a department advisor is essential to plan a rewarding course of study. The major consists of 36 units distributed between the core program and either Plan a or b:

I. Core program (12 units) required of all majors.
   - 201 Introduction to American Studies (3)
   - 301 The American Character (3)
   - 350 Seminar in Theory and Method of American Studies (3)
   - 401 Proseminar in American Studies (3)

II. Alternative plans (24 upper-division units in either plan—electives in American studies in conjunction with approved work in other departments)
   a. Work in American studies and one or two other fields related to the American experience such as history, sociology, literature, political science, anthropology and psychology.
   b. Course work pursuing a particular theme or subject such as law and society, ethnicity in America, the child and the family, American sex roles, urbanization.

American Studies 350 fulfills the course requirement of the university upper-division baccalaureate writing requirement for American studies majors.

MINOR IN AMERICAN STUDIES

The minor in American studies requires 21 units: American Studies 201, 301 or 345, and 401, plus 12 units of electives. Six units may be lower division and three units may be taken in a related department upon approval of an American Studies Department adviser.

THE DOUBLE MAJOR: AMERICAN STUDIES AND ANOTHER FIELD

All American studies majors must include course work from another department; consequently, a double major is easy to arrange.

AMERICAN STUDIES AS PREPARATION FOR Á TEACHING CREDENTIAL

The American studies major has been approved for the multiple subject credential option of the Teacher Preparation and Licensing Law of 1970 (Ryan Act). The major has also been approved for the single subject credential option in history and the single subject credential option in social sciences. Students who have properly selected their undergraduate courses are eligible for a waiver which excuses them from taking the State Licensing Examination for a credential. Contact the Department of American Studies for further information.

MASTER OF ARTS IN AMERICAN STUDIES

See "Graduate Programs."

AMERICAN STUDIES COURSES

101 Introduction to Culture Studies: American Studies as Interdisciplinary Social Science (3)
The concepts of interdisciplinary culture studies, focusing on analysis of cultural change in complex, literate society. American culture, including cross-cultural comparisons. Topics include popular culture, subcultures, regionalism, myths and symbols, and culture and personality.

201 Introduction to American Studies (3)
With the concept of culture as a unifying principle, focus is on four separate time periods in order to provide the framework for an understanding of American civilization. Several different kinds of documents will be used to illustrate the nature and advantages of an interdisciplinary approach.

300 Introduction to American Popular Culture (3)
An historical exploration of popular culture in America as it both reflects and contributes to the search for meaning in everyday life. Themes include heroes, myths of success, symbols of power, images of romance, consumerism, race, and sexual identity.

301 The American Character (3)
Cultural environment and personality. The extent to which there have been and continue to be distinctly American patterns of belief and behavior. Similarities, as well as class, ethnic, sex and regional differences among Americans.

318 Hollywood and America: Using Film as a Cultural Document (3)
An examination of Hollywood as a cultural institution. Concentrating on the films of selected periods, analyzes Hollywood's ability to create and transmit symbols and myths, and legitimize new values and patterns of behavior.

325 30's America Through Films (3)
A cultural history of Depression America using contemporary films as one measure of that culture. The relationship between social values and institutions and popular arts. Hollywood productions such as King Kong and Duck Soup will be shown.

333 Visual Arts in Contemporary America (3)
Visual phenomena in America as they reveal changes in recent American culture. Areas covered include the "high" arts (painting, sculpture) as contrasted with the "low" arts (advertising, television); the artist as innovator, alienation, the business world, and American values in art.

345 The American Dream (3)
An interdisciplinary analysis, in settings both historical and contemporary, of the myth and reality surrounding the notion of America as a land of unparalleled and unlimited possibilities, especially in the achievement of personal material success.

346 American Culture Through Spectator Sports (3)
Study of the shifting meaning of organized sports in changing American society. Includes analysis of sports rituals, symbols and heroes. Focus is on the cultural significance of amateur and professional football, baseball and basketball.

350 Seminar in Theory and Method of American Studies (3)
Prerequisites: American Studies 201 and 301; or consent of instructor. To provide an understanding and appreciation of methodology, theories of society and images of man as they affect American studies contributions to scholarship. Fulfills the course requirement of the university upper-division baccalaureate writing requirement for American studies majors.

355 American Sexual Politics (3)
Why sexuality has become increasingly important in American culture and politics. Historical and contemporary reform and the current sexual counter-reform movement (involving issues such as abortion and gay rights).

360 Cultural Radicalism in America (3)
The designs and strategies for cultural transformation of selected radical groups and individuals from the Puritans to the present.

386A American Social History, 1750–1860 (3)
(Same as History 386A)

386B American Social History, 1865–1930 (3)
(Same as History 386B)

393 American Humor (3)
Analyzes the cultural significance of various types of American humor in past and present settings. How humor reinforces existing culture and also serves as an index and agent of cultural change. Humor's relationship to ethnicity, region, social class and sex.

395 The American West in Symbol and Myth (3)
The meaning of the West to American culture through analysis of cultural documents such as explorer and captivity narratives, fiction, art and film. Topics include: perception of wilderness, Indians, frontiersmen and role of West in creating a sexist national mythology.

401 Proseminar in American Studies (3)
Prerequisites: American Studies 201 and 301; or consent of instructor. The relationship between theory and application. Analytic readings and research. Check the class schedule for topics being considered. May be repeated for credit.

405 Images of Crime and Violence in American Culture (3)
Cultural analysis of meanings ascribed to law and order, authority, violence and punishment in the American past and present. Examined in selected symbols, images, traditions, and realities, including: the gun, police, vigilantes, "hard-boiled detectives," "romantic outlaws," and "crime waves."

411 The White Ethnic in America (3)
Past and present cultures of America's white ethnic groups, principally non-Anglo-Saxon people such as the Jews, Irish and Italians. Ethnic stereotypes, the survival, repression and loss of ethnicity.

412 Freedom and Repression in American Culture (3)
Focuses on pre-industrial American culture, comparing features of modern industrial American culture to that earlier "world we have lost." Topics include: privacy, social control, sexual expression, technology and change.

413 The Shifting Role and Image of the American Male (3)
The effect of economic, social, political and cultural changes on American males. Emphasis on the 19th and 20th centuries.

415 The Hero in American Popular Culture (3)
Nineteenth- and 20th-century materials, including dime novels, pulps, detective fiction, comic strips, and films, will be utilized to examine the role of the hero in American imagination.

416 Southern California Culture: A Study of American Regionalism (3)
Regionalism as a concept and as a fact of American life. Theories of regionalism measured against a study of Southern California and one other distinct American region.

420 Childhood and Family in American Culture (3)
Historical and contemporary culture study of childhood and family in America. The idea of childhood, changing concepts of child-rearing, growing up in the American past, the impact of modernization, mother and home as dominant cultural symbols.

425 Darwinism in American Literature (3)
(Same as English 425)

450 Women in American Society (3)
Socio-cultural history of women and women's movements in American society. Emphasis on 19th and 20th centuries. Examination of cultural models of American womanhood—maternal, domestic, sexual, social—their development and recent changes.

498 American Studies Internship (3)
Prerequisite: junior or senior standing and consent of faculty supervisor. Work experience in the public or private sector related to the student's preparation in systematic study of American culture. Hours to be arranged. Limited to American studies majors only.

499 Independent Study (1–3)
Supervised research projects in American studies to be taken with the consent of instructor and department chair. May be repeated for credit.

501 The Search for Method in American Studies: Concept and Culture (3)
The American studies movement. Its conceptual and methodological development. The way this development was affected by and in turn reflected larger trends in the culture itself.

502 Graduate Colloquim in American Studies: Selected Topics (3)
A particular problem or topic as a case study in the use of interdisciplinary methods in American studies. May be repeated for credit.

598 Thesis (3)
Prerequisite: graduate standing in American studies and consent of graduate coordinator. The writing of a thesis based on original research and its analysis and evaluation.

599 Independent Graduate Research (1–3)
Prerequisite: graduate standing in American studies and consent of graduate coordinator. May be repeated for credit.

DEPARTMENT OF ANTHROPOLOGY

FACULTY
Roger Joseph
Department Chair
Aileen Baron, Marlene Dobkin de Rios, LeRoy Joesink-Mandeville, Hans Leder, Jacob Pandian, Otto Sadovszky, Richard See, Judy Suchey, Wayne Untereiner, Corinne Wood

BACHELOR OF ARTS IN ANTHROPOLOGY

The required minimum for the major is 45 semester units (in addition to those units taken for the general education requirement). Anthropology 101, 102, 103, 300, 480 and 481 are required. Of the remaining 27 units, a minimum of three units must be within the category of anthropology courses listed as "core topics," a minimum of three units from the category "area topics," a minimum of three units from the category "methods"; nine to 18 additional units of upper-division courses in anthropology, and zero to nine units of upper-division courses in related fields.

Lower Division: Required ..... 9 units
Anthropology 101, 102, 103
Upper-division entry course: Required ..... 3 units
Anthropology 300
Core Topics: Required ..... 3 units
Anthropology 302, 303, 305, 306, 308, 309
Area Topics: Required ..... 3 units
Anthropology 321, 324A, 324B, 325, 326, 327, 328, 340, 345, 346, 347, 349, 352, 353, 360, 373, 395
Methods: Required ..... 3 units
Anthropology 401, 402, 403, 404, 405, 406
Anthropology 480: Required ..... 3 units
Anthropology 481: Required ..... 3 units
Additional Units: Required ..... 9–18 units
All upper-division courses in anthropology, including specialized topics (Anthropology 416, 417, 418, 432, 436, 440, 441, 442, 450). These courses must be selected in consultation with the adviser.
Related Fields: Required ..... 0–9 units
These courses must be selected in consultation with the student's adviser; no related field courses will be counted toward the major requirements unless they have the approval of the adviser.
Total ..... 45 units
Note: In anthropology courses, the 300 level is used for core and area, and 400 level is used for methods and specialized topics courses. This numbering system does not imply different levels of difficulty and complexity. Students are urged to select courses in any order from any of these categories that will best serve their interests and needs.

MINOR IN ANTHROPOLOGY

The minor in anthropology is intended as a second field for persons completing a major in another discipline. Twenty-one units must be taken in anthropology; 15 of these in upper division courses. Anthropology 101 (or 103), 102 and 480 are required. Two additional courses must be selected from area topical courses, such as Anthropology 321, 324A, 324B, 325, 326, 327, 328, 340, 345, 346, 347, 349, 352, 360, 373 and 395. Another course must be selected from core topical courses such as Anthropology 302, 303, 305, 306, 308 and 309; or from specialized topical courses such as Anthropology 416, 417, 418, 432, 436, 440, 441, 442, 450. A final course must be either Anthropology 401 or 481.

MASTER OF ARTS IN ANTHROPOLOGY

See "Graduate Programs."

ANTHROPOLOGY COURSES

100 Non-Western Cultures and the Western Tradition (3)
An examination of the changing views of man, nature and culture in Western civilization as related to the impact of non-Western influences, including the use and interpretation of data on non-Western peoples and cultures.

101 Introduction to Physical Anthropology (3) (Formerly 201)
Humans as biological organisms and in evolutionary perspective. Concepts, methods, findings and issues in the study of the order primates, including the relationships between fossil monkeys, apes and humans, and the significance of genetic diversity between modern populations.

102 Introduction to Cultural Anthropology (3) (Formerly 202)
The nature of culture and its significance. Uniformities and variations in human cultures. Cultural analyses of major institutional forms such as the family, economy, government, religion and art with an emphasis on preliterate peoples. Central problems of cultural comparison and interpretation.

103 Introduction to Archaeology (3) (Formerly 203)
Relationship of archaeology, culture history and culture process, field methods and analysis of archaeological data; the uses and abuses of archaeology. World culture history from Pleistocene beginnings to the threshold of civilization.

104 Traditional Cultures of the World (3)
A comparative, worldwide survey of traditional, selected and well-studied ways of life using ethnographic writings, novels and films. Examines representative bands, tribes, chiefdoms, primitive states and folk societies.

300 Language and Culture (3) (Formerly 410)
Prerequisite: Anthropology 102 or consent of instructor. Language as a factor in culture. Trends in the study of language and culture. (Same as Linguistics 300)

302 Culture and Personality: Psychological Anthropology (3) (Formerly 415)
Prerequisites: Anthropology 102 or consent of instructor. The relationship between the individual and the culture. Child training in nonwestern cultures. Survey of concepts, studies, and research techniques.

303 Economic Anthropology (3) (Formerly 430)
Prerequisite: Anthropology 102 or consent of instructor. The ethnology and ethnography of economic life, principally in non-Western societies; the operation of systems of production and distribution within diverse cultural contexts.

305 Anthropology of Religion (3) (Formerly 421)
Prerequisite: Anthropology 102 or consent of instructor. Beliefs and practices in the full human variation of religious phenomena, with an emphasis on primitive religions. The forms, functions, structures, symbolism, and history and evolution of religious systems. (Same as Religious Studies 305)

306 Comparative Aesthetics and Symbolism (3) (Formerly 423)
The metaphysical and mystical systems underlying the "grammars" of the art, poetry, languages, myths, music and rituals of various nonliterate and literate peoples and their development into creative experiences.

308 Culture Change (3) (Formerly 460)
Prerequisite: Anthropology 102 or consent of instructor. Interrelations between cultural, social and psychological processes in the dynamics of culture growth and change. Impact of western technology on tribal and peasant societies. Anthropological contributions to the planning of directed sociocultural change in selected areas.

309 Applied Anthropology (3) (Formerly 462)
The uses of anthropological skills and sensitivities in approaching contemporary human problems. Cultural change, organizational development, program planning and evaluation, the consultant's role, and professional ethics.

321 The American Indian (3)
Prerequisite: Anthropology 102 or consent of instructor. North American Indians north of Mexico; origins, languages, culture areas, cultural history; the impact of European contacts.

324A The Ancient Maya (3)
Prerequisite: Anthropology 102 or consent of instructor. The archaeology and ethnohistory of the Maya area of Southern Mesoamerica. The problems of initial settlement of the area and the "rise" and dynamics of ancient Maya civilization.

324B The Aztecs and Their Predecessors (3)
Prerequisite: Anthropology 102 or consent of instructor. Archaeological survey of principal Mesoamerica pre-Columbian cultures north and west of Maya area. The Aztecs and their predecessors, religion, art, architecture, intellectural achievements and the Olmec heritage.

325 Peoples of South America (3)
Prerequisite: Anthropology 102 or consent of instructor. Central and South America. Representative cultural areas before and after contacts with Western countries.

326 Archaeology of South America (3)
Prerequisite: Anthropology 102 or consent of instructor. Archaeological and ethnohistorical survey of the culture areas and ecological zones of South America, lower Central America and the West Indies, including Inca civilization and its origin, possible trans-oceanic contact, religion, medicine and technology.

327 Origins of Civilizations (3)
The development of civilization in both the Old and New Worlds in primary centers such as Mesopotamia, Egypt, the Indus Valley, China, Mesoamerica and Peru, and secondary centers such as the Aegean and Europe.

328 Peoples of Africa (3)
Prerequisite: Anthropology 102 or consent of instructor. A cultural survey of Africa. Description of selected cultures and aspects of culture before and after contact with non-Africans.

340 Peoples of Asia (3)
Prerequisite: Anthropology 102 or consent of instructor. A survey of Asian civilizations and cultural traditions, emphasizing the study of the personality configurations in different culture areas, the analysis of the structure of Asian civilizations, and an examination of the peasant, tribal and ethnic groups of Asia.

345 Peoples of the Middle East and North Africa (3)
Prerequisite: Anthropology 102 or consent of instructor. Interrelationship between culture, economy, political structure and belief system of selected cultures in the Middle East and North Africa.

346 Archaeology of the Holy Land (3)
Prerequisite: Anthropology 103 or consent of instructor. Culture history of ancient Palestine from the Paleolithic to historic times. Changes in settlement patterns, resource base, and sociopolitical organization.

347 Peoples of the Pacific (3)
Prerequisite: Anthropology 102 or consent of instructor. The indigenous peoples and cultures of the Pacific Islands, including Tahiti, Hawaii and Australia. The forces and processes contributing to social change in island communities and current problems being faced by them.

349 California Archaeology (3)
Prerequisite: Anthropology 101 or 103 or consent of instructor. An archaeological survey of California, emphasizing the examination of recent scientific excavations. Analysis of new archaeological methods, current research specializations, responsibilities of the modern archaeologist, and review of legislation affecting archaeology.

352 Peoples of Ancient Europe (3)
Prerequisite: Anthropology 102 or consent of instructor. The cultural and social institutions of the peoples of pre-Christian Europe. The Greek, Italic, Germanic and Celtic peoples. Readings from original ancient writers.

353 Peoples of Europe (3)
Prerequisites: Anthropology 102 or consent of instructor. Culture areas in modern and historical perspective, including the origins of European religious beliefs, the folkloristic tradition and nationality, the rural-urban conflict, and the effects of the totalitarian systems on traditional peasant societies.

360 Contemporary American Culture (3)
Prerequisite: Anthropology 102 or consent of instructor. Application of anthropological methods, categories of analysis, and types of interpretation to American culture. Survey and critique of selected community studies and other kinds of relevant research.

373 Health and Nutrition in the Third World (3)
Traditional beliefs and practices related to health and nutrition in Third World cultures. Conflicts between tradition and attempts to introduce new approaches.

395 Archaeological Fieldwork in Israel (3)
Prerequisite: Anthropology 103 or consent of instructor. Archaeological field course in Israel, stressing excavation, mapping, recording, and pottery and tool classification, description and registration. May be repeated for credit.

401 Ethnographic Field Methods (3)
Prerequisites: Anthropology 102 and six additional units of anthropology or consent of instructor. Anthropological field research by students on various problems using participant observation techniques.

402 Museum Science (3)
Methods, principles and techniques used in natural history, and small scientific and historical museums. Subjects covered include scope of exhibit and research collections, care and repair of specimens, acquisitions, storage, and preparation of presentations in anthropological, historical, biological and paleontological museums.

403 Archaeological Fieldwork (3)
Prerequisites: Anthropology 102 or 103 and consent of instructor. Excavation of a local archaeological site. Archaeological mapping, photography and recording. Laboratory methods of cataloging, preservation, description and interpretation of archaeological materials. Saturday field sessions. May be repeated once for credit as an elective. (1 hour lecture, 6 hours laboratory)

404 Analytical Methods in Archaeology (3)
Prerequisites: Anthropology 103 and 403. The employment of physical data collecting techniques (e.g., photographic, palaeo-magnetic) in the field and the analysis of artifact collections and data from previous field operations in the laboratory. May be repeated once for credit as an elective. (1 hour lecture, 6 hours laboratory)

405 Human Osteology (3) (Formerly 444)
Prerequisite: consent of instructor. Techniques in the basic identification of human skeletal remains. Aging, sexing, racing, and stature reconstruction. For those interested in archaeology, hominid evolution and/or forensic science. (2 hours lecture, 3 hours laboratory)

406 Descriptive Linguistics (3)
(Same as Linguistics 406)

416 Anthropological Linguistics (3) (Formerly 409)
Nature and functions of language; language structure and change; classification of languages; use of linguistic evidence in anthropology. (Same as Linguistics 416)

417 Life Quests (3)
Contemporary ways to wisdom and humanness in cross-cultural and historical perspectives. New and comparative approaches to understanding the life cycle, development and fulfillment of individual personalities.

418 Mental Illness in Cross-Cultural Perspective (3)
Problems in the cross-cultural definition and treatment of mental illness. Cross-cultural perspectives on symptomatology and etiology, culture bound disorders, the folk healer, and the relationship between cultural change and mental disorders.

432 Woman in Cross-Cultural Perspective (3)
Prerequisite: Anthropology 102. The influence of biological determinants as they are shaped by cultural beliefs, values, expectations and socially defined roles for women. The changing role of women in industrial society.

436 Jazz: Past, Present and Future (3)
Jazz—its primitive and European roots; cross-cultural description of improvisation. Lectures, demonstrations, some concerts.

440 Human Evolution (3)
Prerequisite: Anthropology 101. Advanced primate evolution; the origin of *Homo sapiens* as evidenced in the fossil record and through biochemical and molecular studies. Evolutionary theory and problems in human evolution. (2 hours lecture, 3 hours laboratory)

441 Human Variation (3) (Formerly 370)
Prerequisite: Anthropology 101. The processes underlying and the theories for the existence of the present variation between and within human populations. The genetics of human populations and the significance of racial classifications. (2 hours lecture, 3 hours laboratory)

442 Medical Anthropology (3)
Human health and disease and their relationship to cultural practices, beliefs and environmental factors; histories of various diseases as factors of cultural change; health care delivery systems. (2 hours lecture, 3 hours laboratory)

450 Culture and Education (3)
Prerequisite: Anthropology 102 or Ed-TE 301 or consent of instructor. The transmission of values, implicit cultural assumptions, and the patterning of education in cross-cultural perspective. American culture and development problems.

480 History of Anthropology (3)
Prerequisite: Anthropology 102 or consent of instructor. The principal contributions of anthropologists 1850–1950; evolutionary, diffusionist, historical, particularist, configurationalist, and culture and personality approaches in anthropology.

481 Contemporary Anthropology (3)
Prerequisite: Anthropology 102 or consent of instructor. Anthropologists from 1950 to the present; neoevolutionist, sociological, structuralist, psychological and symbolic approaches.

490 Undergraduate Seminar in Anthropology (3)
Prerequisite: consent of instructor. Topics in anthropology. May be repeated for credit.

491 Internship in Anthropology (3)
Prerequisites: 18 upper division units in anthropology and/or related fields. Career opportunities. On-the-job training under faculty supervision in museum, industry or governmental service.

499 Independent Study (1–3)
Prerequisites: at least 15 units of anthropology and consent of adviser. Individual research project involving either library or fieldwork. Conferences with the adviser as necessary. Results in one or more papers. May be repeated for credit.

501 Seminar: Methodology of Anthropological Research (3)
Prerequisites: Anthropology 102, 401 and consent of instructor. The contemporary methodological spectrum in anthropology and new trends in research planning and implementation.

502 Contemporary Theory in Cultural Anthropology (3)
Prerequisite: Anthropology 480 or consent of instructor. The basic assumptions and theoretical positions of leading contemporary anthropologists.

504 Seminar: Selected Topics in Anthropology (3)
Prerequisites: completion of undergraduate major in anthropology and/or graduate standing or consent of instructor. The topic chosen and a general outline of the seminar is circulated prior to registration. May be repeated.

505 Phonological Analysis (3)
(Same as Linguistics 505)

507 Grammatical Analysis (3)
(Same as Linguistics 507)

508 Theories of Syntax (3)
(Same as Linguistics 508)

592 Field Methods in Linguistics (3)
(Same as Linguistics 592)

597 Project (3, 6)
Prerequisites: graduate standing and consent of instructor. The completion of a project derived from original field or laboratory research, and/or on library study. May be repeated for credit to a maximum of 6 units.

598 Thesis (3, 6)
Prerequisites: graduate standing and consent of instructor. The writing of a thesis based on original field or laboratory research, and/or on library study, and its analysis and evaluation. May be repeated for credit to a maximum of 6 units.

599 Independent Graduate Research (1–3)
Prerequisite: consent of adviser. Individual research involving fieldwork, laboratory, or library study, and conferences with a project adviser as necessary, and resulting in one or more papers. May be repeated for credit.

DEPARTMENT OF CHICANO STUDIES

FACULTY
Isaac Cardenas
Department Chair
Dagoberto Fuentes, Adolfo Ortega, Joseph Platt

BACHELOR OF ARTS IN THE CHICANO STUDIES OPTION OF ETHNIC STUDIES

The degree program in Chicano studies fulfills a variety of needs in contemporary higher education: to educate students to the culture, language, education, history, politics, and socioeconomics of the Chicano population in the United States.

The program emphasizes preparation for: (1) those interested in bilingual-bicultural education to meet elementary, secondary and cross-cultural specialist credentials; (2) students pursuing advanced degrees (M.A. and Ph.D.); (3) those entering a variety of occupations in urban affairs, government, social work, school administration, counseling, business, criminology, law, foreign service and other related areas; and (4) majors in other academic fields such as liberal studies, history, sociology, psychology, literature, anthropology, who wish to include additional scope to their field.

The Chicano studies option consists of 36 units of which a minimum of 27 units must be upper division. Students must consult with their advisers to develop an approved study plan.

	Units
Lower Division	6
106 Introduction to Chicano Studies (3)	
220 Mexican Heritage (3)	
Upper Division	9
(to be selected from the following)	
430 The Evolution of Mexican Literature (3)	
431 The Chicano Child (3)	
440 Mexican Intellectual Thought (3)	
445 History of the Chicano (3)	
453 Mexico Since 1906 (3)	
Electives	21
102 Communication Skills (3)	
300 Barrio Conversational Spanish (3)	
302 Ancient Mexican Culture (3)	
305 The Chicano Family (3)	
306 Barrio Studies (3)	
307 Barrio Studies (3)	
316 The Chicano Music Experience (3)	
335 Curanderismo: Chicano-Mexican Folk Medicine (3)	
336 Main Trends in Spanish-American Literature (3)	
337 Contemporary Chicano Literature (3)	
360 Chicano and the Law (3)	
403 Cultural Differences in Mexico and the Southwest (3)	
406 La Chicana (3)	
420 Spanish for the Elementary School Teacher in the Barrio (3)	
430 The Evolution of Mexican Literature (3)	
431 The Chicano Child (3)	
432 The Chicano Adolescent (3)	
433 Mexican Literature Since 1940 (3)	
438 Issues in Bilingual/Cross-Cultural Education (3)	
440 Mexican Intellectual Thought (3)	
445 History of the Chicano (3)	
450 The Chicano and Contemporary Issues (3)	
453 Mexico Since 1906 (3)	
460 The Chicano and Politics (3)	
499 Independent Study (1–3)	
Total	36

MINOR IN CHICANO STUDIES

The minor in Chicano studies consists of 24 units in the following areas:

Required lower-division courses (6 units)

106 Introduction to Chicano Studies (3)
220 Mexican Heritage (3)

Required upper-division courses (6 units)

430 The Evolution of Mexican Literature (3)
440 Mexican Intellectual Thought (3)
453 Mexico Since 1906 (3)

Approved electives

Twelve units of approved course work in lower- and upper-division classes that are selected by the adviser.

TEACHER CREDENTIAL REQUIREMENTS

The B.A. in Chicano studies is approved by the State Board of Education for those candidates seeking a single subject or multiple subject (Ryan) teaching credential. The department is approved for waiver of the examination requirement for Chicano studies major with a multiple subject credential objective.

This single subject waiver program has been approved by the Commission for Teacher Preparation and Licensing through December 31, 1983. Students wishing to pursue a single subject credential in this area after that date should contact the department office for current information.

An adviser in the department and in the Division of Teacher Education should be consulted for information.

THE BILINGUAL/CROSS-CULTURAL SPECIALIST CREDENTIAL PROGRAM

Requirements for this credential are described in a brochure available at the offices of the Department of Chicano Studies, the Department of Foreign Languages and Literatures, or the School of Human Development and Community Service. The Chicano studies component of the specialist credential program requires nine units from the following Chicano studies courses:

305 The Chicano Family (3)
306 Barrio Studies (3)
403 Cultural Differences in Mexico and the Southwest (3)
420 Spanish for the Elementary School Teacher in the Barrio (3)
430 The Evolution of Mexican Literature (3)
431 The Chicano Child (3)
438 Issues in Bilingual/Cross-Cultural Education (3)
445 History of the Chicano (3)
453 Mexico Since 1906 (3)

Advanced Study

Chicano studies offers courses for advanced study in the following graduate degree programs at California State University, Fullerton:

M.A. Social Sciences
M.S. Education: Bilingual/Bicultural Concentration
M.A. Spanish: Bilingual Studies Concentration

CHICANO STUDIES COURSES

102 Communication Skills (3)
The basic communication skills including oral and written expression. A unit on the mechanics of writing and reporting on a term paper.

106 Introduction to Chicano Studies (3)
The role of the Chicano in the United States. The Chicano's cultural values, social organization, urbanization patterns, and the problems in the area of education, politics and legislation.

220 Mexican Heritage (3)
The basic characteristics of the Mexican, especially the Chicano society and culture. From 1519 to the present. Emphasis on the arts, literature and history of Mexico and the Chicano in the United States.

300 Barrio Conversational Spanish (3)
Analysis of the Caló language of the southwestern states of the United States. The bicultural language of the Chicanos, origin, development and contemporary use in the barrios.

302 Ancient Mexican Culture (3)
A historical and cultural survey of the principal pre-Columbian cultures of Mexico and their significance for Mexican society.

305 The Chicano Family (3)
The Chicano family development as an American social institution. Historical and cross-cultural perspectives. The socio- and psychodynamics of the Chicano family.

306 Barrio Studies (3)
Prerequisite: Chicano Studies 200 or 220 or consent of instructor. The major characteristics of the barrio. Supervised fieldwork in the barrio is required. Analysis of the barrio or agency wil be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

307 Barrio Studies (3)
Prerequisite: Chicano Studies 306. The major characteristics of the barrio and supervised fieldwork in the local barrios. An analysis of the barrio or agency will be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

316 The Chicano Music Experience (3)
Mexican folk and popular music and its relation to the culture which produced it. The pre-Cortesian period to the present in Mexico and in the Southwestern United States.

335 Curanderismo: Chicano-Mexican Folk Medicine (3)
The nature of Mexican folk medicine. Ethno-medicine and culture in Mexico and the Southwest. The underlying aspects of modern and folk medicine.

336 Main Trends in Spanish-American Literature (3)
The main currents of Spanish American literature emphasizing contemporary works. The relation between the artistic expression and the ideological values of the period.

337 Contemporary Chicano Literature (3)
Prerequisite: Chicano Studies 101 or 106, or 220, or 237, or consent of instructor. The modern Chicano writers in the United States: Allurista, Corky Gonzales, Octavio Romano, el treatro campesino and the major Chicano magazines and newspapers.

360 Chicanos and the Law (3)
The relationship between Chicanos and the legal and judicial system, including the administration of justice, Chicano-police relations, and Chicanos and the prison system. Guest speakers will be a regular feature.

403 Cultural Differences in Mexico and the Southwest (3)
The cultural conflicts in Mexico as seen by the contemporary thinkers of Mexico and the United States. Urban and rural problems.

406 La Chicana (3)
The cultural influences that the family, religion, economic status and community play upon the lifestyles, the values and the roles held by Chicanas.

420 Spanish for the Elementary School Teacher in the Barrio (3)
To improve the oral expression of teachers in the barrio elementary schools. The language patterns of the Chicano students and their parents.

430 The Evolution of Mexican Literature (3)
Survey and analysis of the Nahautl, Mexican and Chicano literature from the pre-Columbian period to the present.

431 The Chicano Child (3)
The Chicano child from preschool through grade six. Motor, physical, social, intellectual and emotional growth and development and their effect on school adjustment and achievement. Observation of preschool and grade school children.

432 The Chicano Adolescent (3)
The Chicano adolescents' social, intellectual and emotional growth and development. The bicultural pressures from the barrio, family structure, school and achievement values.

433 Mexican Literature Since 1940 (3)
The literature of Mexico since 1940: Carlos Fuentes, Luis Spota, Rodolfo Usigli, Xavier Villarrutia, Juan Jose Arreola, Octavio Paz, Roberto Blanco Moheno and Luis G. Basurto.

438 Issues in Bilingual/Cross-Cultural Education (3)
The Chicano community involvement in issues of bilingual-bicultural education. Chicano education, literature, legislation, court decisions, political issues and programmatic efforts.

440 Mexican Intellectual Thought (3)
Prerequisite: reading knowledge of Spanish and Chicano Studies 237 and 302 recommended. The emergence of the Chicano movement dealing with political, economic and sociological facets. The writings of the Nahautl, Spanish, Spanish-American, Chicano and contemporary writers.

445 History of the Chicano (3)
History of the Chicano from the pre-Columbian period to the present. The Chicanos' changing role in the United States, their cultural identity crisis and their achievements.

450 The Chicano and Contemporary Issues (3)
The socioeconomic and political problems confronting the Chicano including proposed solutions. The effect that social institutions have had on the Chicano community.

453 Mexico Since 1906 (3)
Prerequisite: upper division class standing. The Mexican Revolution of 1910 stressing the political, economic and social aspects as well as its contributions in the fields of art, literature and social reforms.

460 The Chicano and Politics (3)
Theory of urban politics and evaluation of issues that affect the Chicanos and American society. Evaluations and surveys will be made on political organizations in the Hispanic-surnamed communities.

480 The Immigrant and the Chicano (3)
Mexican immigration to the United States and its social, economic and political impacts on the Chicano and non-Chicano communities and other immigrant groups.

497 Ethnic Internship (3)
(Same as Afro-Ethnic Studies 497)

499 Independent Study (1–3)
Prerequisites: senior level and approval by the department chair and instructor(s) in charge of directing the study. An opportunity to do independent study under the guidance of the faculty, of a subject of special interest to the student.

599 Independent Graduate Research (1–3)
Prerequisites: consent of instructor and classified status. Individual research for Chicano studies components in M.A. in Bilingual Studies (Spanish) M.S. in Bilingual Education (Education) and related programs. Maximum of 3 hours credit.

DEPARTMENT OF COMMUNICATIONS

FACULTY
Edgar Trotter
Department Chair
Michael Adams, James Alexander, Kenward Atkin, Stephen Berman, Fenton Calhoun, Douglas Covert, Wendell Crow, Ronald Dyas, Lynne Gross, Mary Lynn Hartman, Terry Hynes, Carolyn Johnson, Raynolds Johnson, David Little, George Mastroianni, R. Dean Mills, Norman Nager, Emma Oshagan, Wayne Overbeck, Patrick Parsons, Rick Pullen, Marvin Rosen, Ted Smythe, Don Sunoo, Larry Ward

Effective ethical communications are essential for the well-being of a democratic society. Thus there is a need for persons trained in the theory and practice of informing, instructing, and persuading through communications media. The educational objectives of the programs leading to the Bachelor of Arts in Communications are: (1) to ensure that all majors receive a broad liberal education; (2) to provide majors with a clear understanding of the role of communications media in society; and (3) to prepare majors desiring communications-related careers in the mass media, business, government and education by educating in depth in one of the specialized sequences within the department.

A master of arts program in communications provides advanced study in communications and related disciplines for those seeking professional careers in teaching, research, and mass media.

BACHELOR OF ARTS IN COMMUNICATIONS

A communications major is required to take 12 units of core requirements in addition to 24 units in a chosen sequence. The department offers five sequences to choose from: advertising, news-editorial, photocommunications, public relations, and radio-television-film.

The major totals 36 units.

Collateral requirements: Twelve units of upper-division course work in other departments approved by the adviser are also required. Collateral courses for each sequence are recommended by the sequence coordinator.

A minimum of 65 percent of the total units taken before graduation must be taken outside the Communications Department.

COMMUNICATIONS CORE

The communications core provides background and perspective appropriate to all the departmental sequences and an understanding of the role of communicators and their contribution to the development of high standards of professionalism.

Nine units of required course work:
Com 233 Mass Communication in Modern Society (3)
Com 407 Communications Law (3)
Com 425 History and Philosophy of American Mass Communication (3)
Plus three units selected from the following:
Com 410 Principles of Communications Research (3)

Com 426 World Communication Systems (3)
Com 427 Current Issues in Mass Communication (3)
Com 428 Communications and Social Change (3)
Com 431 Mass Communications in Communist Systems (3)
Com 480 Persuasive Communications (3)
Com 481 Mass Communication and Conflict (3)

COMMUNICATIONS SEQUENCES

Every communications major must select and complete 24 units of course work in a major sequence.

ADVERTISING

The objective of the advertising sequence is to prepare students for entry level positions in one or more of the four basic advertising activities: creative (copy, layout design), media, research, and management. Students are provided with knowledge and skills needed for work with an advertiser, advertising agency, the print and broadcast media, or support service industry.

Com 101 Writing for the Mass Media (3)
Com 350 Introduction to Advertising (3)
Com 352 Advertising Media (3)
Com 353 Advertising Copy and Layout (3)
Com 358 Graphics Communications (3)
Com 439 Mass Media Internship (3)
Com 450 Advertising Communications Management (3)

Plus three units selected from the following:

Com 354, 361, 381, 451, 453

And 12 collateral units of upper division courses beyond general education approved by adviser.

Recommended departments include Art, English, Management, Management Science, Marketing, Psychology, Sociology and Speech Communication.

NEWS-EDITORIAL

The principal objective of the news-editorial sequence is to provide the skills and practice necessary for careers in the print media. Specifically, the sequence objectives are: (1) to provide experience in writing various types of news stories, and to develop skills in reporting and news gathering techniques; (2) to develop critical acumen necessary to check news stories for accuracy and correctness; (3) to develop skills in graphics or photography that complement the journalistic writing skills; (4) to provide actual on-the-job experience by working on the campus newspaper and through an internship; and (5) to add breadth and depth to the professional's specialized skills through collateral courses.

Com 101 Writing for the Mass Media (3)
Com 201 Reporting for the Mass Media (3)
Com 332 Copy Editing and Makeup (3)
Com 335 Reporting of Public Affairs (3)
Com 338 Newspaper Production (3)
Com 439 Mass Media Internship (3)

Plus three units from: Com 217 or 319. Com 358 permitted with adviser approval.

And three units from: Com 334, 430, 435, 436

And 12 collateral units of upper division courses beyond general education which must be selected from the following list of approved courses, and this selection must represent at least one course from each of four departments: English 300, 303, 322, 462, 463, 464; History 476; Sociology 301, 341, 345, 348; Political Science 300, 310, 350, 413; Economics 330, 335, 350, 361 and 365.

PHOTOCOMMUNICATIONS

The sequence in photocommunications provides a comprehensive study of the theories and practices of photography for intelligent applications of principles to produce photographs acceptable to the mass media.

Six units of writing courses selected from the following: Com 101, 301, 334, 335, 353, 362, 371.

Com 217 Introduction to Black-and-White Photography (3)
Com 319 Communications Photography (3)
Com 321 Advanced Color Photography (3)
Com 326 Advanced Communications Photography (2)
Com 439 Mass Media Internship (3)

Plus four units selected from the following:
Com 220, 311, 338, 340, 358
And 12 collateral units of upper division courses beyond general education approved by adviser.

PUBLIC RELATIONS

This sequence provides preparation in both theory and practice of two-way communication and management counsel for prospective professional public relations careers in business, industry, agency, government, and nonprofit sectors of society.

Com 101 Writing for the Mass Media (3)
Com 361 Principles of Public Relations (3)
Com 362 Public Relations Writing (3)
Com 439 Mass Media Internship (3)
Com 463 Public Relations Methods (3)

Plus nine units selected from the following:
Com 301, 332, 338, 350, 358, 363, 410, 497
And 12 collateral units of upper division courses beyond general education approved by adviser. Recommended departments include Management, Marketing, Psychology, Sociology, Political Science and Speech Communication.

RADIO-TELEVISION-FILM

Courses in this sequence are designed for an understanding of the history, theory and practice of radio-television and film. Students are prepared for entry level positions in business, education, and the broadcasting and film industries.

Students who wish a film concentration in broadcasting should take six units of writing from Com 101, 301, or 371; and 290A or 290B; 311; 375; 411; 439; *and* 12 collateral units of upper-division courses beyond general education approved by adviser.

Com 301 Writing for Broadcasting and Film (3)
Com 371 Radio Television News and Public Affairs (3)
Com 382 Broadcasting in America (3)
Com 439 Mass Media Internship (3)

Plus nine units selected from the following:
Com 311, 378, 381, 390, 411, 479, 484, 488
Plus three units selected from the following:
Com 345 The Language of Film and Television (3)
Com 375 The Documentary Film (3)
Com 478 Management in the Broadcasting and Film Industry (3)
And 12 collateral units of upper division courses beyond general education approved by adviser.

WRITING REQUIREMENTS

A communications major must satisfy both departmental and university writing requirements.

English Usage Test (EUT): The EUT is a prerequisite to Communications department writing courses. It is administered free in January, April, August and October. Students are allowed three attempts to earn a passing score, but all attempts must be completed within one year of the initial attempt. The test should be taken prior to declaring a major in communications or immediately following enrollment in communications classes. Only students who have earned a baccalaureate degree or who have equivalent EPT, SAT or ACT scores are exempt from the EUT requirement.

University Writing Requirement: The course work portion of the university's upper-division baccalaureate writing requirement for communications majors may be met by satisfactory completion of any one of communications 301, 334, 335, 338, 353, 362, 371 or 410.

JOURNALISM EDUCATION

The department offers a program approved by the California Commission for Teacher Preparation and Licensing for those seeking a secondary teaching credential. For advisement, consult the department and an adviser in the School of Human Development and Community Service.

MASTER OF ARTS IN COMMUNICATIONS

See "Graduate Programs."

COMMUNICATIONS COURSES

101 Writing for the Mass Media (3)
Prerequisite: Communications Department English Usage Test; typing ability. Principles and practices of writing for major types of mass communications media. Content, organization, conciseness and clarity.

103 Applied Writing (3)
Prerequisite: English Placement Test. Designed primarily for non-communication majors interested in learning to write effectively. Principles of writing including spelling, grammar and punctuation are put into practice through assignments. Assignments include organizing and preparing letters, reports, documents and proposals required in most occupations.

201 Reporting for the Mass Media (3)
Prerequisites: Communications Department English Usage Test, Com 101 or equivalent; typing ability. Development of expertise in the use of news reporting techniques combined with development of ability to compose complex journalistic writing forms for possible publication.

217 Introduction to Black and White Photography (3)*
Cameras, accessories, materials, exposure, processing, printing, finishing, composition, filters, flash, studio techniques, and special subject treatments and applications. (2 hours lecture, 3 hours laboratory)

220 Introduction to Color Photography (2)
Theory, principles and practice of color photography in mass communication. Communicating with color photography and slide-tape presentations. Work done with commercially processed slide film.

233 Mass Communication in Modern Society (3)
Newspapers, magazines, films, radio and television; their significance as social instruments and economic entities in modern society.

234 Sports Writing (3)
Prerequisite: Com 101 or equivalent. Preparation and writing of sports articles for specific audiences.

290A,B History and Aesthetics of the Motion Picture (3,3)
The study of motion picture as a global influence in mass communications and entertainment. Examination of film movements, the rise and fall of the studio system, and social influences. **A**—Origins to 1945; **B**—1945 to present. Film screenings on and off campus.

301 Writing for Broadcasting and Film (3)
Prerequisite: Communications Department English Usage Test; typing ability. Theory and principles of writing in the broadcast and film media.

303 Business Communications (3)
Design and implementation of communications systems for business enterprises. Graphic analysis and analytical techniques. Practice in producing messages and channeling them to avoid ambiguities.

311 Introduction to Motion Picture Production (3)
Theory and practice of motion picture photography and film production. (2 hours lecture, 3 hours laboratory)

319 Communications Photography (3)
Prerequisite: Com 217 or equivalent. Photography for publication in print media. News, advertising, feature, sports, lifestyle, photo essay, and documentary applications. (2 hours lecture, 3 hours laboratory)

321 Advanced Color Photography (3)
Prerequisites: Com 217 and 220 or equivalent. Positive and negative color film processing, sensitometry, and color printing. Creative and effective use of color in publications photography. (2 hours lecture, 3 hours laboratory)

326 Advanced Communications Photography (2)
Prerequisite: six units of photography or consent of instructor. Photographs and photographic communications for the mass media, business, education, government, industry and science. (1 hour lecture, 3 hours activity)

* Students wishing a non-laboratory introduction to photography may enroll in Com 220.

332 Copy Editing and Makeup (3)
Prerequisites: Communications Department English Usage Test and Com 201 or equivalent. Principles and practice of newspaper editing: copy improvement, headline writing, news photos and cutlines, wire services, typography, copy schedules and control, page design and layout, law and ethics. (2 hours lecture, 3 hours laboratory)

334 Feature Article Writing (3)
Prerequisites: Communications Department English Usage Test and Com 101 or equivalent. Nonfiction writing for newspapers and magazines; sources, methods and markets.

335 Public Affairs Reporting (3)
Prerequisites: Communications Department English Usage Test, Com 101 and 201, or consent of instructor. Com 407 recommended. Reporting public interest news such as courts, education, finance, government, police and urban problems.

338 Newspaper Production (3)
Prerequisites: Communications Department English Usage Test, Com 201 or equivalent and consent of instructor. Members of the class constitute the editorial staff of the university newspaper. Meets four hours per week for critiques in news reporting, writing, editing and makeup, followed by production. May be repeated for a maximum of six units of credit. (More than 9 hours laboratory)

340 Photography in Advertising and Public Relations (2)
Prerequisite: a basic course in photography. Advertising and public relations photography. Materials and techniques for producing color and black-and-white photographs with visual impact suitable for photoreproduction. Techniques for shooting outdoors and indoors under studio and natural conditions. Students prepare a portfolio of photographs. (1 hour lecture, 3 hours activity)

345 The Language of Film and Television (3)
Prerequisite: Com 233 or consent of instructor. Critical and theoretical analysis of film and television as communication. Examines the manner in which an organized sequence of images and sounds communicates meaning using literature in semiology and visual communications.

350 Introduction to Advertising (3)
Advertising in America. The language and art of advertising and its role in marketing.

352 Advertising Media (3)
Prerequisites: Com 350 or Marketing 354. Principles and procedures in planning, execution and control of advertising media programs. Basic data and characteristics of the media. Buying and selling process, techniques, and methods in media planning process. Audience measurement and media analysis.

353 Advertising Copy and Layout (3)
Prerequisites: Communications Department English Usage Test and Com 101, 350 or consent of instructor. Writing of copy and layout of advertisements, based on study of sales appeals, attention factors and illustrations. (2 hours lecture, 2 hours activity)

354 Retail Advertising (3)
Prerequisites: Com 350, 353, or consent of instructor. Retail advertising and sales; supervised field assignments in the analysis of advertising needs.

358 Graphics Communications (3)
Printing processes, publication formats, copy preparation, copy-fitting techniques, layout principles, paper selection and distribution methods. (2 hours lecture, 2 hours activity)

361 Principles of Public Relations (3)
The social, behavioral, psychological, ethical, economic and political foundations of public relations, and the theories of public relations as a communications discipline.

362 Public Relations Writing (3)
Prerequisites: Communications Department English Usage Test and Com 101 or consent of instructor; typing ability. Communications analysis, writing for business, industry and nonprofit organizations. Creating effective forms of public relations communication.

363 Publications Editing (3)
Prerequisites: Com 361 and six units of communications writing or consent of instructor. Editing functions and techniques involved in creative development of publications for business, industry and nonprofit organizations and institutions. Magazines, newspapers, newsletters and brochures.

371 Radio-Television News and Public Affairs (3)
Prerequisites: Communications Department English Usage Test, Com 101 or 301, Com 382 and 390; typing ability. Covering news events and public affairs for radio and television. (2 hours lecture, 3 hours lab)

375 The Documentary Film (3)
Purpose, development, current trends, critical analysis and production requirements of the documentary film. Future of the medium in business, government, education and television.

378 Introduction to Audio Production (3)
Prerequisite: Communications majors only. Audio production as it pertains to radio broadcasting, commercial production and recording, television and film audio. (2 hours lecture, 3 hours laboratory)

381 Broadcast Advertising (3)
Prerequisite: Com 350. Writing of advertising copy for radio and television, based upon study of unique media and audience characteristics, costs and coverages. (2 hours lecture, 3 hours laboratory)

382 Broadcasting in America (3)
Prerequisite: Communications major or consent of instructor. The foundation course of the telecommunications sequence. Radio and television from a professional perspective. Economic, historical, regulatory aspects and the social effects of these media.

390 Introduction to Video Production (3)
Production of programs for broadcast stations and other video materials for cable, business, industrial and instructional applications. (2 hours lecture, 3 hours laboratory)

401 Report Writing (3)
Planning, organizing, and writing of reports for business, education and government. Use of graphic aids and preparation of copy for reports that are to be printed. For non-majors.

407 Communications Law (3)
Prerequisites: Com 233 and junior standing. The Anglo-American concept of freedom of speech and press; statutes and administrative regulations affecting freedom of information and publishing, advertising and telecommunication. Libel and slander, rights in news and advertising, contempt, copyright and invasion of privacy.

410 Principles of Communication Research (3)
Prerequisites: Com 233 and junior standing. Research methods used to assess the effects of print, broadcast and film communications on audience attitudes, opinions, knowledge and behavior. Research design and data analysis in communications research.

411 Advanced Motion Picture Production (3)
Prerequisites: Com 217, 311, 301 or concurrent enrollment, or consent of instructor. Theory, procedures and practice in film production: motion picture (silent and sound), script-writing, transfer and mixes, production, distribution and financing. (2 hours lecture, 3 hours lab)

425 History and Philosophy of American Mass Communication (3)
Prerequisites: Com 233 and junior standing. American mass communication; newspapers and periodicals through radio and television; ideological, political, social and economical aspects.

426 World Communication Systems (3)
Prerequisites: Com 233 and junior standing. Major mass communication systems, both democratic and totalitarian, and the means by which news and propaganda are conveyed internationally.

427 Current Issues in Mass Communication (3)
Prerequisites: Com 233, 407 and 425. Exploration of current issues which cross department sequences. Controversial and changing concepts of the function and role of the mass media including such topics as access, relevance, legal and ethical restraints, media for minorities, and persuasive arts.

428 Communications and Social Change (3)
Prerequisites: Com 233 and junior standing. How innovations—ideas, products, and practices perceived as new—are communicated to members of a social system. The roles of adopters, opinion leaders, change agents, and communications in the diffusion of innovations and consequent changes in social systems.

430 Newspaper Management (3)
Prerequisite: consent of instructor. Organization, operation and administration of a newspaper's departmental activities: advertising, business, circulation, mechanical, news-editorial, and promotion. (3 hours lecture, field trips, detailed study of one selected newspaper department)

431 Mass Communications in Communist Systems (3)
Mass media in Communist societies; the U.S.S.R., the People's Republic of China, Poland and Yugoslavia. The mass media, people and party.

435 Editorial and Critical Writing (3)
Prerequisite: Communications Department English Usage Test, Com 101 and upper division writing course. The roles of the editorial and critical writer and opinion columnist. Techniques of editorial writing and aspects of critical thinking. (2 hours lecture; 2 hours lab and fieldwork)

436 Investigative and Specialized Reporting (3)
Prerequisites: Communications Department English Usage Test, Com 332, 335 and 407. Investigative and interpretive reporting of complex or specialized subjects.

439 Mass Media Internship (3)
Prerequisites: senior standing, communications major and consent of instructor. Supervised internship, according to sequence, with newspaper, magazine, radio or television station, press association, public relations firm or advertising agency. Application must be made through department coordinator one semester prior to entering program. (Credit/No Credit only)

450 Advertising Communications Management (3)
Prerequisites: Com 350 and 352. Theory and techniques for planning, directing and evaluating advertising programs with emphasis on media-message strategies. Managerial approach with case studies to the solution of advertising communications problems.

451 National Advertising Campaigns (3)
Prerequisites: Com 350, 352 and 353. Advertising campaigns and utilization of mass media—such as television, newspapers and magazines—in national advertising programs. Design of complete campaigns from idea to production readiness.

453 Advanced Advertising Copywriting (3)
Prerequisites: Communications Department English Usage Test, Com 350 and 353. The practical problems and creative solution of professional advertising copywriting. Marketing strategy for creative platform, theme and execution in writing advertising copy for the mass media. In-class assignments on real accounts.

463 Public Relations Methods (3)
Prerequisite: Com 361 or consent of instructor. Techniques for effective public relations in both personal and mass communications, and methods for managing public relations programs.

478 Management in the Broadcasting and Film Industries (3)
Prerequisite: advanced standing, Com. 382 or consent of instructor. The study of management of the broadcasting, cable-TV and film industries with attention to financial structures, programming and government regulation.

479 Advanced Video Production (3)
Prerequisite: Com 390 or consent of instructor. Producing programs for broadcast and other applications for cable, business, industrial and instructional use. Emphasis on location shooting and post production including electronic editing. (2 hours lecture, 3 hours laboratory)

480 Persuasive Communications (3)
Prerequisites: Com 233 and junior standing. Persuasive communications applied to mass communication. The communicator, audience, message content and structure, and social context in influencing attitudes, beliefs, and opinions.

481 Mass Communication and Conflict (3)
Prerequisites: Com 233 and junior standing. Changes and similarities in the mass communication of conflict issues over the past 75 years; war and peace, the role of women, and various reform movements. Undergraduate seminar.

484 Documentary Production (3)
Prerequisites: B average in Com. 390 and 479 or 488 and consent of instructor. A lecture/laboratory course in which students write and produce radio, television and film documentaries. (2 hours lecture, 3 hours laboratory)

488 Production Workshop for Cable Television (3)
Prerequisites: B average in Com. 390 and 479 or consent of instructor. Students produce informational and sports programs for cable TV systems and radio stations. May be repeated once for credit; only three units may apply to major. (9 hours laboratory)

496 Student-to-Student Tutorial (1–3)
Prerequisites: consent of instructor and previous superior performance in a similar or equivalent course. Under faculty supervision, student provides tutorial assistance in a communications course. May involve small group demonstrations and discussions, individual tutoring, and evaluation of student performance as appropriate. May be repeated to a maximum of four units either separately or in combination with Com 499.

497 Seminar in Public Communications Practices (3)
Prerequisite: Com 463 and consent of instructor. Operationalizing public relations management principles. Role of public relations in contemporary society. Ethics, social responsibilities and trends in the emerging profession.

499 Independent Study (1–3)
Prerequisite: consent of department chair. Individually supervised mass media projects and research on campus and in the community. May involve newspaper and magazine publishers, radio and television stations and public relations agencies. May be repeated up to a maximum of four units either separately or in combination with Com 496.

500 Theory and Literature of Communications (3)
Prerequisite: Conditional classified status. Theories and research on communication processes and effects; source, media, message, audience and content variables. Types, sources, and uses of communication literature. Graduate seminar.

508 Humanistic Research in Communications (3)
Prerequisites: Com 410, 500 or concurrent enrollment and classified status. Humanistic methods of study in communications: historical research and critical analysis applied to problems, issues, and creative works in communication. Graduate seminar.

509 Social Science Research in Communications (3)
Prerequisites: Com 410, 500 and classified status. Social-scientific research design and analysis and the study of communication processes and effects. Graduate seminar.

515 Professional Problems in Specialized Fields (3)
Prerequisite: Com 500. Selected topics and issues in the field of mass communications. Subjects vary each semester. May be repeated for a maximum of six units.

520A,B Communications Practicum (3,3)
Prerequisites: Com 500 and six units of study-plan courses in area of specialization. Under supervision of a faculty member, students plan, design, conduct and evaluate a team project in their field of specialization: **A**—News-Editorial, **B**—Radio-Television-Film.

597 Project (3 or 6)
Completion of a creative project in a sequence beyond regularly offered coursework.

598 Thesis (3 or 6)
Completion of a thesis in a sequence beyond regularly offered coursework.

599 Independent Graduate Research (1–3)
Prerequisite: consent of department chair. Individually supervised mass media projects or research for graduate students. May be repeated.

JOURNALISM EDUCATION COURSES

442 Teaching Journalism in the Secondary School (3)
Prerequisite: admission to teacher education. Techniques of advising school newspaper and yearbook staffs and teaching journalism. Relation of classroom instruction to staff assignments.

449A,B Journalism Education (12)
Prerequisite: admission to student teaching. Full-time student teaching. **A**—Student teaching in the secondary school. **B**—Seminar.

DEPARTMENT OF CRIMINAL JUSTICE

FACULTY
W. Garrett Capune
Department Chair
James Farris, William Hobbs

The program leading to the Bachelor of Arts in Criminal Justice is designed to acquaint preservice and inservice students with the principles and practices of criminal justice in America. Although the

program's curriculum allows for the development of depth in one of the subject's substantive subsystems (i.e., law enforcement, courts or corrections), the overriding objective is to familiarize students with activities in all the above areas.

The program is both academic and professional in that it is an interdisciplinary attempt to relate professional and practitioner perspectives to the challenge of crime in a free society. In this regard, the program provides preparation for employment with a related agency and/or further study, (e.g., law school).

ADVISEMENT

Students are urged to attend a "New Student's Advisement Session" prior to their first semester at the university as a criminal justice major. This is particularly important for community college transfers. *Failure to do so may delay graduation.* The department's "New Student Advisement Sessions" are regularly and frequently scheduled. See the bulletin board for details.

BACHELOR OF ARTS IN CRIMINAL JUSTICE

Every student must complete the core courses (15 units) and a minimum of 12 units in the concentration curriculum. In addition, each student is required to complete 12 units in a correlated curriculum.

For current information regarding the criminal justice program and its courses, consult the program's bulletin board.

Core Curriculum (15 units)

Criminal Justice 300 Introduction to Criminal Justice
Criminal Justice 310A Criminal Law: Substantive
Criminal Justice 320 Criminal Justice Administration: A Survey
Criminal Justice 330 Crime and Delinquency
Criminal Justice 340 Criminal Justice Research Methodology

Concentration Curriculum (12 units)

Criminal Justice 310B Criminal Law: Procedural
Criminal Justice 415 The Enforcement Function
Criminal Justice 425 Juvenile Justice Administration
Criminal Justice 435 Adjudication and the Judiciary
Criminal Justice 445A Corrections: Community Programs
Criminal Justice 445B Corrections: Institution Programs
Criminal Justice 475 Topics in Administration of Justice: A Seminar
Criminal Justice 480 Courtroom Evidence
Criminal Justice 485A, B Search, Seizure and Interrogation
Criminal Justice 490 Legal Issues in Law Enforcement
Criminal Justice 495 Internship
Criminal Justice 499 Independent Study

Correlated Curriculum (12 units)

Courses from the related fields shall be selected in consultation with the student's adviser. The purpose of this requirement is to allow for the establishment of an emphasis, such as public administration or counseling. Upper-division courses in the following fields can be considered in this regard: human services, philosophy, political science, psychology, public administration, social welfare, sociology.

CRIMINAL JUSTICE COURSES

300 Introduction to Criminal Justice (3)

A study of the underlying ideological issues confronting America's system of criminal justice, with an emphasis on key concepts in conflict (law and order, rehabilitation vs. retribution, etc.).

310A Criminal Law: Substantive (3)

The general doctrines of criminal liability in the United States and the classification of crimes as against persons, property and the public welfare. The concept of governmental sanction of the conduct of the individual.

310B Criminal Law: Procedural (3)
Legal problems associated with the investigation of crime, the acquisition of evidence, the commencement of a criminal proceeding, the prosecution and defense of charges sentencing and appeal. The development of existing procedures and examination of current efforts for reform.

320 Criminal Justice Administration: A survey (3)
Justice administration as a "single system"; modern management materials as applied to the involved institutions; line, staff, and auxiliary activities both in principle and practice, and the associated administrative theories.

330 Crime and Delinquency (3)
The nature and extent of criminality; traditional and topical theories regarding etiology; research methods, sociological and psychological theories.

340 Criminal Justice Research Methodology (3)
Elementary statistics including descriptives, measurements and tests; data collection methods for effort evaluation and program prediction; systems analysis techniques.

350 Principles and Concepts of Investigation and Reporting (3)
Prerequisite: Criminal Justice 310A or equivalent. Principles of investigative activity practiced by police, courts and correctional subsystems. Reporting procedures and requirements. *Meets classroom portion of upper-division writing requirement for Criminal Justice majors.*

415 The Enforcement Function (3)
Prerequisite: Criminal Justice 300 or consent of instructor. The historical and philosophical development of the enforcement function at federal, state and local levels; community controls, political pressures and legal limitations pertaining to law enforcement agencies at each level of government; police policies and problems vis-a-vis the administration of justice as a system.

425 Juvenile Justice Administration (3)
Prerequisite: Criminal Justice 300 or consent of instructor. Definitions of "delinquency" and the related responses of the interested institutions (police, courts and correction); the juvenile court (past and present), and prevention and correction programs (practicing and proposed).

435 Adjudication and the Judiciary (3)
Prerequisite: Criminal Justice 300 or consent of instructor. The associated sociolegal doctrine and institutions at the federal, state and local levels; political controls and legal limitations pertaining to each; the nature of the judicial process; the participants' roles and relationships to the administration of justice as a system.

445A Corrections: Community Programs (3)
Prerequisite: Criminal Justice 300 or consent of instructor. The philosophy and practice of community corrections, including: historical antecedents, juvenile and adult probation, parole, diversion practices, private programs, and their interrelation with institutional corrections and the criminal justice system.

445B Corrections: Institution Programs (3)
Prerequisite: Criminal Justice 300 or consent of instructor. Histories and philosophies of juvenile and adult correctional institutions; analysis of each "total institution" for prisoners and personnel; theory and practice of rehabilitation and alternative attitudes. Current research and experimental programs.

475 Topics in Administration of Justice: A Seminar (3)
Prerequisite: Criminal Justice 300 or consent of instructor. Current social, legal and practical problems confronting the police, the courts and corrections. A "variable topic" class with specific subjects to be announced each semester.

480 Courtroom Evidence (3)
Prerequisite: Criminal Justice 300 or consent of instructor. The rules of evidence in the context of a criminal trial in a California court. The rules, their application and their rationale. Lecture, discussion and simulated courtroom situations.

485A Search, Seizure and Interrogation I (3)
Prerequisite: Criminal Justice 300 or consent of instructor. The more common rules of law that apply to searches, seizures and interrogations in California; how they have changed and where they are going.

485B Search, Seizure and Interrogation II (3)
Prerequisites: Criminal Justice 485A or consent of instructor. Rules of law that apply to searches, seizures and interrogations in California. Extension of Criminal Justice 485A.

490 Legal Issues in Law Enforcement (3)
Prerequisite: Criminal Justice 300 or consent of instructor. A review of current legal issues affecting law enforcement, such as, the discovery of police personnel files, the use of deadly force and civil rights lawsuit.

495 Internships (3)
Prerequisites: Criminal Justice 300 and consent of instructor. The criminal justice professions. Eight to 20 hours per week as a supervised intern in a public agency or related organization. In addition to the job experience, interns meet in a weekly three-hour seminar.

499 Independent Study (1–3)
Prerequisites: at least 12 hours of criminal justice and consent of adviser. Student selects an individual research project, either library or field. Conferences with adviser as necessary, culminating in one or more papers. May be repeated for credit.

510 Seminar in Selected Topics in Criminal Justice (3)
Prerequisite: graduate standing. Problems in criminal justice appropriate to the specialized research interests of the instructor, such as: corrections, law enforcement, juvenile delinquency or court administration. Topics to be announced each semester course offered.

DEPARTMENT OF ENGLISH AND COMPARATIVE LITERATURE

FACULTY
Thomas Klammer
Department Chair
Don Austin, Arthur Bell, Rosemary Boston, John Brugaletta, George Friend, Stephen Garber, Joseph Gilde, Joan Greenwood, Ann Haaker, Jean Hall, Mary Hayden, Dennis Hengeveld, Jane Hipolito, Robert Hodges, Michael Holland, Wayne Huebner, Helen Jaskoski, Dorothea Kenny, Dorothy Kilker, William Koon, Joanne Lynn, Willis McNelly, Keith Neilson, Priscilla Oaks, Paul Obler, Urania Petalas, June Pollak, Sally Romotsky, William Rubinstein, Joseph Sawicki, Muriel Schulz, John Schwarz, Alice Scoufos, Howard Seller, George Spangler, Elena Tumas, Martha Vogeler, John White, Helen Yanko

The Department of English and Comparative Literature offers the Bachelor of Arts and Master of Arts in Comparative Literature and Bachelor of Arts and the Master of Arts in English.

BACHELOR OF ARTS IN COMPARATIVE LITERATURE

The major in comparative literature provides professional competence and personal enrichment for students with an exceptional concern and appreciation for the study of the interrelationships between the languages and literatures of various civilizations. The program offers courses in literary form and content, theory and philosophy, genres and movements, providing insight into the backgrounds of mankind's worldwide culture and literature. The comparative literature courses are conducted in English and required reading is available in English.

Upper-Division Requirements (42 units)

1. Eighteen units selected from among comparative literature courses and distributed as follows:

Required Courses (9 units)	*Units*
Comp Lit 324 World Literature to 1650	3
Comp Lit 325 World Literature 1650 to Present	3
	6
Three units from	
Comp Lit 332 Medieval Literature (3)	
Comp Lit 333 Literature of the Renaissance (3)	3
Nine units from comparative literature courses	9
	18

2. Reading competence in a foreign language, demonstrated by successfully completing an adviser-approved 400-level course offered by the Department of Foreign Languages and Literatures, provided it is not taught in translation. This requirement can be met through examination. Information on the examination is available in the Department of English and Comparative Literature office.
3. Six units selected from literature courses listed under English and numbered 300 or above.
4. Six units of anthropology, history, art history, music history or philosophy approved by the adviser and aimed at enlarging total perspective.

5. The remainder of the required 42 units selected from any 300- or 400-level literature course in comparative literature, English, French, German, Italian, Russian or Spanish.

More detailed information on the comparative literature major can be obtained from the brochure available in the Department of English and Comparative Literature office. Special courses on mythology, theory and methods, literary genres, and literary movements will be offered periodically. The importance of close consultation with an adviser cannot be stressed enough for comparative literature, since the diversity of language specialties and other factors may necessitate individual tailoring.

MASTER OF ARTS IN COMPARATIVE LITERATURE

See "Graduate Programs."

BACHELOR OF ARTS IN ENGLISH

The courses in English concern the nature and development of our language, the literatures of England and America, and the disciplines involved in the various kinds of writing.

The Department of English and Comparative Literature offers some specialized professional courses for the preparation of teachers. On the senior and graduate levels, various opportunities are provided for seminar work and independent study. The English and Comparative Literature Department offers a flexible program, designed to reflect various approaches to the study of language and literature. In planning a program to fit their particular interests, *all students* are urged to consult an English and Comparative Literature Department faculty member.

Requirements: 42 units in addition to English 101, or its equivalent.

Lower Division (maximum of 12 units)

Any 200 level course.

Upper Division (minimum of 30 units)

Required courses (9 units)

English 300 Analysis of Literary Forms (3)
English 301 Advanced College Writing (3)
English 334 Shakespeare (3)

Survey courses (minimum of 6 units), selected from among the following:

English 311 Masters of British Literature to 1760 (3)
English 312 Masters of British Literature from 1760 (3)
English 321 American Literature to Whitman (3)
English 322 American Literature from Twain to the Moderns (3)
Comp Lit 324 World Literature to 1650 (3)
Comp Lit 325 World Literature from 1650 (3)

Period, genre and criticism courses (9 units—at least 3 units from courses prior to 1800, i.e., 332, 335, 336, 337, 338, 339, 340, 345, 423), selected from among the following:

English 332 Medieval Literature (3)
English 335 Elizabethan and Jacobean Drama (3)
English 336 Elizabethan Poetry and Prose (3)
English 337 17th-Century Poetry and Prose (3)
English 338 The Drama of the Restoration and the 18th-Century (3)
English 339 Restoration Literature (1660–1700) (3)
English 340 18th-Century Poetry and Prose (3)
English 343 The Romantic Movement in English Literature (3)
English 344 Victorian Literature (3)
English 345 The Development of the English Novel Through Jane Austen (3)
English 346 The Development of the 19th-Century English Novel (3)
English 391 Traditions of English Literary Criticism (3)
English 423 Early American Literature (3)
English 445 The American Tradition in Poetry (3)
English 462 Modern British and American Novels (3)
English 463 Contemporary British and American Novels (3)
English 464 Modern British and American Drama (3)
English 465 Contemporary British and American Drama (3)
English 466 Modern British and American Poetry (3)
English 467 Contemporary British and American Poetry (3)

Major author courses (Shakespeare—English 334—*plus* 3 units)
English 333 Chaucer (3) *or*
English 341 Milton (3)

Language courses (minimum of 3 units), selected from among the following:
English 303 Structure of Modern English (3)
English 305 The English Language in America (3)
English 490 History of the English Language (3)

Electives to complete a minimum of 42 units shall be selected from courses in language and composition, literature courses, literary criticism, and comparative literature. Comparative literature offerings are listed separately but count toward an English major.

Students are urged to consult a faculty member when choosing electives or when seeking evaluation of work completed at other institutions.

English majors who intend to pursue graduate study are urged to acquire proficiency in at least one foreign language, and most graduate programs in English assume that the student has had a broad background in the study of major literary figures, periods and critical approaches, as well as some training in English language and linguistics. Both breadth and depth of preparation are important.

The California Commission for Teacher Preparation and Licensing has approved the English Department's waiver plan for both the Ryan Single Subject Credential in English and the Ryan Multiple Subjects Credential. Students who follow the prescribed courses of study will not be required to take the state teacher licensing examination. For further information, consult the English Department.

Note: The single subject waiver program has been approved by the Commission for Teacher Preparation and Licensing through December 31, 1983. Students wishing to pursue a single subject credential in this area after that date should contact the department office for current information.

Students seeking a secondary teaching credential must complete the following:
English 301 Advanced College Writing; and
English 303 Structure of Modern English

The following courses are required for the credential, but do not count toward the 42 units of major:
English Education 442 Teaching English in the Secondary School
English Education 449A,B English Education

MINOR IN ENGLISH

Requirements: a total of 21 units

A minimum of 15 units described below and 6 units of electives. In choosing their electives, students seeking a minor in English should consult a faculty member.

Required courses (9 units)
English 300 Analysis of Literary Forms (3)
English 301 Advanced College Writing (3)
English 334 Shakespeare (3)

Survey courses (minimum of 6 units), selected from among the following:
English 311 Masters of British Literature to 1760 (3)
English 312 Masters of British Literature from 1760 (3)
English 321 American Literature to Whitman (3)
English 322 American Literature from Twain to the Moderns (3)
Comp Lit 324 World Literature to 1650 (3)
Comp Lit 325 World Literature from 1650 (3)

Electives
Six units drawn from additional Department of English and Comparative Literature courses.

MASTER OF ARTS IN ENGLISH

See "Graduate Programs."

COMPARATIVE LITERATURE COURSES

110 Literature of the Western World from Ancient through Medieval Times (3)
(Same as English 110)

111 Literature of the Western World from the Renaissance through the 19th Century (3)
(Same as English 111)

112 Modern Literature of the Western World (3)
(Same as English 112)

202 Short Story (3)
(Same as English 202)

203 Introduction to the Novel (3)
The techniques and structure of representative European and American novels. (Same as English 203)

257 Writing Haiku (1–3)
(Same as English 257)

312 The Bible as Literature (3)
Literary qualities of biblical literature and the influence of major themes upon Western literary traditions.

315 Classical Mythology in World Literature (3)
Greek and Roman myths which have been of continuing significance in Western world literature.

316 Celtic Mythology and Early Irish Literature (3)
Early Irish literature and Irish and Welsh mythological literature; comparative and archeological relationships.

320 Greek and Roman Literature (3)
Readings in English translation from the literature of classical Greece and Rome.

321 Germanic Mythology and Saga Literature (3)
Germanic mythology, including comparative myth and archeological relationships, and Icelandic saga.

324 World Literature to 1650 (3)
Oriental and western literature from the beginning to 1650.

325 World Literature from 1650 (3)
Oriental and western literature from 1650 to the present.

332 Medieval Literature (3)
(Same as English 332)

333 Literature of the Renaissance (3)
The Renaissance as a literary movement, from Erasmus to Montaigne and Cervantes.

352 African Literature (3)
(Same as English 352 and Afro-Ethnic Studies 352)

355 Images of Women in Literature (3)
(Same as English 355)

360 Irish Literature (3)
Irish literature from the early Middle Ages to the present.

373 Masters of Russian Literature (3)
Pushkin, Gogol, Dostoyevsky, Tolstoy, Chekhov, and others, and their relationship to western literature.

426 Japanese Literature (3)
Selected translations of Japanese literature.

427 Modern Japanese Fiction (3)
Major writers and literary movements in 20th-century Japanese fiction.

453 The Novel in France and Germany (3)
Novels in translation; principles of the narrative arts. Goethe, Stendhal, Flaubert, Mann, Kafka, Proust and others.

499 Independent Study (1–3)
572 Graduate Seminar: Literary Genres (3)
(Same as English 572)
574 Graduate Seminar: Special Problems in Literature (3)
(Same as English 574)
579 Graduate Seminar: Problems in Criticism (3)
(Same as English 579)
598 Thesis (3)
599 Independent Study (1–3)

ENGLISH COURSES

For world literature in English translation see courses under Comparative Literature.

099 Developmental Writing (3)
An intensive course in basic writing skills. Designed to prepare students for English 101. Required of, and open only to, students who score below minimum standard on the English Placement Test (EPT). Degree credit is not awarded for this course.

101 Beginning College Writing (3)
Prerequisite: English 099, a satisfactory score on the English Placement Test, or exemption from the EPT. An introductory course in the fundamentals of expository prose. Emphasizes grammatical and basic rhetorical concepts and practices necessary for successful college writing.

105 Introduction to Creative Writing (3)
Exploratory creative writing with the opportunity to write in various genres. No credit toward the major.

106 Writing for ESL Students (3)
Prerequisite: consent of instructor. Fundamentals of written English for speakers of other languages. Emphasis on idiomatic usage and paragraph structure in written expression.

110 Literature of the Western World from Ancient through Medieval Times (3)
Representative writers and works from the ancient through the medieval world. (Same as Comparative Literature 110)

111 Literature of the Western World from the Renaissance through the 19th Century (3)
Representative writers and works from the Renaissance through the 19th century. (Same as Comparative Literature 111)

112 Modern Literature of the Western World (3)
Representative writers and works of modern literature. (Same as Comparative Literature 112)

200 Introduction to Literature (3)
An introduction to the study of fiction, drama and poetry. Concentration on the critical understanding of literary types rather than on their historical development. Carries no credit toward the major.

201 Intermediate College Writing (3)
Recommended: Introduction to College Writing. Techniques of investigation, documentation and organization essential for writing academic papers: the research paper, reports, critiques, essay examination.

202 The Short Story (3)
The structure and technique of the short story. Critical analysis of selected American and European short stories. (Same as Comparative Literature 202)

203 Introduction to the Novel (3)
(Same as Comparative Literature 203)

204 Intermediate Creative Writing (3)
Recommended: Introduction to Creative Writing, consent of instructor. A course providing experience in creative writing beyond the introductory level. Emphasis on poetry, the short story, and/or the one-act play.

205 Introduction to Drama (3)
Analysis of individual examples of dramatic literature.

206 Introduction to Poetry (3)
Analysis of the various kinds of English poems.

210 Studies in Literature (3)
Selected readings and discussion of English and American writers, emphasizing a particular theme, genre, trend or the works of individual writers. Section topics will vary according to the special interests of the instructor.

257 Writing *Haiku* (1–3)
After a brief study of the development of *haiku* in Japan, students will write and revise *haiku* in English and share them with the class. With consent of instructor, may be repeated for no more than three units of credit. (Same as Comparative Literature 257)

300 Analysis of Literary Forms (3)
The main literary forms—prose fiction, poetry and drama—are studied and analyzed. English majors should schedule this basic course as early as possible.

301 Advanced College Writing (3)
Prerequisite: English 101 or Communications 103. An advanced course in writing expository prose. Emphasizes precision in rhetoric and development of individual style by concentration on matters of diction, audience, emphasis and persuasion. Required of English majors seeking a secondary credential.

303 The Structure of Modern English (3)
Prerequisite: junior standing. The grammar of contemporary English. Modern English usage. This course required of English majors seeking a secondary credential. Must be taken before student teaching.

304 Advanced Creative Writing (3)
Recommended: Intermediate Creative Writing. Instruction and practice in a workshop setting for the student with some experience in creative writing; emphasis on writing for professional markets. Consult the class schedule to determine instructor's emphasis. May be repeated for credit.

305 The English Language in America (3)
American English, its origins, its regional and social dialects, and its role in American history and in such institutions as schools, corporations, government, and the media. (Same as Linguistics 305)

311 Masters of British Literature to 1760 (3)
Prerequisite: sophomore standing or consent of instructor. Major periods and movements, major authors and major forms through 1760.

312 Masters of British Literature from 1760 (3)
Prerequisite: sophomore standing or consent of instructor. Major periods and movements, major authors and major forms from 1760 through modern times.

320 Literature of the American Indians (3)
The prose and poetry of the North American Indian tribes.

321 American Literature to Whitman (3)
Major writers such as Hawthorne, Poe, Melville, Emerson, Thoreau, Whitman, Dickinson.

322 American Literature from Twain to the Moderns (3)
Major writers such as Twain, James, Crane, Hemingway, Faulkner, O'Neill, Frost, Eliot.

325 American Ballad and Folksong (3)
Anglo-American balladry and folksong; their historical development, ethnic background and poetical values.

326 The American Frontier in Literature (3)
Prerequisite: any courses in American literature, American studies or American history. The American frontier from the beginnings to the close of the 19th century. Explorers and naturalists; artistic, literary and popular treatments to identify the myths and symbols created by the fact of a frontier in American life.

332 Medieval Literature (3)
Readings in modern English translation from the medieval literature of England and the continent from St. Augustine to Sir Thomas Malory. (Same as Comparative Literature 332)

333 Chaucer (3)
The Canterbury Tales and Chaucer's language. The vocabulary, pronunciation, grammar, and syntax of the East Midland dialect of Middle English.

334 Shakespeare (3)
A study of the major plays.

335 Elizabethan and Jacobean Drama (3)
The dramatic tradition in plays by such dramatists as Marlowe, Jonson, Webster, Beaumont and Fletcher.

336 Elizabethan Poetry and Prose (3)
The nondramatic literature of the English Renaissance.

337 17th-Century Poetry and Prose (3)
Nondramatic literature of the period from 1603 to 1660 exclusive of Milton.

338 The Drama of the Restoration and the 18th Century (3)
Representative plays of the Restoration and the 18th century. The development of such dramatic movements as the heroic play, Restoration comedy and sentimental drama.

339 Restoration Literature (1660–1770) (3)
Major writers such as Butler, Rochester, Dryden, Pepys; selected minor writers.

340 18th-Century Poetry and Prose (3)
Major writers such as Swift, Addison and Steele, Pope, Boswell, Johnson; selected minor writers.

341 Milton (3)
The poetry and prose in the light of Milton's intellectual development.

343 The Romantic Movement in English Literature (3)
Major writers such as Burns, Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats.

344 Victorian Literature (3)
Major writers such as Carlyle, Tennyson, Browning, Arnold, Ruskin, Pater.

345 The Development of the English Novel through Jane Austen (3)
The English novel from its beginnings to the 19th century; such novelists as Defoe, Richardson, Fielding, Sterne and Austen.

346 The Development of the 19th-Century English Novel (3)
Major novelists such as the Brontës, Thackeray, Dickens, Eliot, and Hardy.

348 Horror Fiction (3)
Horror/occult fiction (or "dark fantasy") from Mary Shelley to the present, including such writers as E. A. Poe, J. S. LeFanu, Bram Stoker, H. P. Lovecraft, Fritz Leiber and Stephen King.

349 Fantasy Fiction (3)
Fantasy in literature from Ariosto to Brautigan.

350 Detective Fiction (3)
Detective fiction from Edgar Allan Poe to the present, including writers such as Sayers, Christie, Chandler, Hammet and Ross Macdonald.

351 Science Fiction (3)
Science fiction as a literary genre, including future-scene fiction, the utopian novel, the superman/woman novel and short stories.

352 African Literature (3)
African literature written in the English language; the fiction, poetry and drama of the new nations. (Same as Comparative Literature 352 and Afro-Ethnic Studies 352)

354 Linguistics and Literature (3)
(Same as Linguistics 354)

355 Images of Women in Literature (3)
Images of women in various genres, such as autobiography, poetry, drama and the novel. A conventional literary period (Victorian, Modern, etc.) and specific cultures (Great Britain or the United States, etc.) at the discretion of instructor. (Same as Comparative Literature 355)

360 Scientific and Technical Report Writing (3)
Expository writing applied to specific professional writing tasks; technical report, management report, grant proposal, internal memo, etc. Specific sections of the course shall be designated each semester as tailored to the needs of students in particular fields; consult class schedule.

365 Legal Writing (3)
Advanced composition; stressing logic, reasoning, and legal analysis.

391 Traditions of English Literary Criticism (3)
The major English critics, from the Renaissance to the beginning of the 20th century, in relationship to the classical theories of criticism.

392 Modern Literary Criticism (3)
The major movements in 20th-century British and American criticism.

423 Early American Literature (3)
Prerequisite: English 321 or consent of instructor. The literature of colonial and revolutionary America, including the Puritans, 18th-century deism and rationalism and the literary antecedents of American democratic thought.

425 Darwinism in American Literature (3)
Prerequisites: junior standing and consent of instructor. Selected writings of Darwin and of such Darwinians as Spencer and Huxley; literary adaptations and assimilations of Darwinism. (Same as American Studies 425)

433 Children's Literature (3)
World literature written primarily for children, including material from the oral tradition, realistic fiction, fantasy and poetry.

434 Adolescent Literature (3)
The evaluation, selection, and interpretation of fiction, nonfiction, drama, and poetry reflecting the broad range of interest of young people from 12 to 17 years of age.

435 Studies in Shakespeare (3)
Prerequisite: English 334 or consent of instructor. Problems of dramatic structure and artistic meanings.

445 The American Tradition in Poetry (3)
American poems from the 17th century to 1914. Reading of individual poems.

462 Modern British and American Novels (3)
Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. Modern British and American novels from 1900 to 1950.

463 Contemporary British and American Novels (3)
The novel in English since World War II.

464 Modern British and American Drama (3)
Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. British and American drama from 1900 to 1950.

465 Contemporary British and American Drama (3)
British and American drama from 1950 to the present.

466 Modern British and American Poetry (3)
Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. British and American poetry from 1900 to 1950.

467 Contemporary British and American Poetry (3)
British and American poetry from 1950 to the present.

490 History of the English Language (3)
Prerequisite: senior or graduate standing. The historical development of English vocabulary, phonology, morphology and syntax from Indo-European to modern American English.

498 English Internship (3)
Prerequisites: junior or senior status and consent of faculty supervisor. Experience in the practical application of studies in literature and language to work outside the university, Hours—to be specified; enrollment limited; C/NC—no credit toward major.

499 Independent Study (1–3)
Open to advanced students in English with consent of department chair. May be repeated for credit.

500 Introduction to Graduate Studies in Literature (3)
Research techniques, analytical approaches, and theories of literature. A course providing basic orientation in graduate literary studies.

571 Graduate Seminar: Major Writers (3)
As appropriate to the specialized research and publication of instructor; major figures such as Shakespeare, Milton, Chaucer, Melville, Twain, Hawthorne, Joyce and Coleridge. May be repeated with different content for additional credit.

572 Graduate Seminar: Literary Genres (3)
As appropriate to the specialized research and publication of instructor; major literary types such as the epic, the novel, the short story, lyric poetry, tragedy, comedy and historical drama. May be repeated with different content for additional credit. (Same as Comparative Literature 572)

573 Graduate Seminar: Cultural Periods (3)
As appropriate to the specialized research and publication of instructor; the literature of a cultural period from the Anglo-Saxon to modern times. May be repeated with different content for additional credit.

574 Graduate Seminar: Special Problems in Literature (3)
As appropriate to the specialized research and publication of the instructor; special problems such as influences on literature, including philosophical, religious, scientific, geographic and other ecological viewpoints. May be repeated with different content for additional credit. (Same as Comparative Literature 574)

575 Graduate Seminar: Topics in High School Teaching (3)
Specific topics will vary from semester to semester.

579 Graduate Seminar: Problems in Criticism (3)
Historical development and schools of criticism. Individual offerings within this course number may deal with only one aspect of critical problems. May be repeated with different content for additional credit. (Same as Comparative Literature 579)

580 Special topics in Linguistics (3)
(Same as Linguistics 580)

597 Project (3)
Prerequisite: classified graduate standing. A research paper, a critical study, a portfolio of creative writings, or the results of fieldwork or experiment. Supervising professor and English department graduate studies committee must approve the proposal in advance of registration.

599 Independent Graduate Research (3)
Research projects in areas of specialization beyond regularly offered course work. Oral and written reports. May be repeated with different content for additional credit.

ENGLISH EDUCATION COURSES

442 Teaching English in the Secondary School (3)
Prerequisite: admission to teacher education. Principles, methods and materials of teaching English in the secondary school.

449A English Education (10)
Student teaching in the secondary school. The candidate, in the field for four and one-half days each week, has the same instructional hours of responsibility as the master teacher.

449B English Education (2)
One afternoon a week the candidate partcipates in a seminar with the university supervisor.

DEPARTMENT OF FOREIGN LANGUAGES AND LITERATURES

FACULTY
Leon Gilbert
Department Chair

Linda Andersen-Fiala, Oswaldo Arana, Nancy Baden, Gerald Boarino, Samuel Cartledge, Modesto Díaz, Michéle Druon, Ronald Harmon, Arturo Jasso, Jacqueline Kiraithe, Walter Kline, G. Bording Mathieu, Doris Merrifield, Ervie Peña, Marcial Prado, Charles Shapley, Curtis Swanson, Marjorie Tussing, Eva Van Ginneken, Stephen Vasari, Jon Zimmermann

BACHELOR OF ARTS IN FRENCH, GERMAN OR SPANISH

Several options are offered:

1. *French major.* Requirements: French 101, 102, 203, 204, 230, 240, or their equivalents; plus a minimum of 27 units of upper-division courses including 315, 317 or 318, 325, 375, 415, 425 and six units of 475 A,B,C,D.
2. *German major.* Requirements: German 101, 102, 203, 204, 213, 214, or their equivalents; plus 24 units of upper-division course work, which must include 315, 317, 375 and three of the following literature courses: 430, 440, 450, 460
3. *Spanish major:* Lower-division requirements: Spanish 101, 102, 203, 204, 213, 214, or their equivalents. Upper-division requirements for:

A. Standard major: Spanish 315, 316, 317 or 318, 375; plus 15 units of upper-division Spanish which must include 430, 441 and 461.
B. Bilingual emphasis major: Spanish 315 or 316, 317 or 318, 375, 400 (or its equivalent), 466, 467, 468, plus two additional courses in Spanish at the 400 level, to be taken in consultation with the adviser.

PLACEMENT: Students may enroll at any point in the sequence of courses for which their previous study and/or experience prepares them. Students with no language background should enroll in fundamental 101-level courses. Normally, two years of high school language study are counted as one year of college language. Students just completing two years of high school language should probably begin at 200-level intermediate courses. A minimum of four years of high school language, or its equivalent, is considered a prerequisite for more advanced 300-level major work. Due to the sequential nature of language instruction, consultation with an adviser in the Department of Foreign Languages and Literatures is strongly recommended before enrolling.

UPPER-DIVISION WRITING REQUIREMENT

English 301 satisfies the course portion of the upper-division writing requirement for all foreign language majors.

TRANSFER STUDENTS

In accordance with university rules, all transfer students must complete 30 units in residence at Cal State Fullerton. Of these 30 units, the transfer student majoring in French, German or Spanish is required to complete 12 upper-division units, i.e., 300, 400 or 500-level courses, in the major on the Cal State Fullerton campus. The specific courses will be determined in consultation with the student's adviser and approved by the chair.

MINOR IN A FOREIGN LANGUAGE

Requirements: Courses 101, 102, 203, 204, 213, 214 (French 230, 240) or their equivalents completed satisfactorily; plus 12 units in upper-division courses as follows:

1. *French minor.* French 315 or 325, 317 or 318 plus six units of upper-division electives to be selected in consultation with the student's adviser.
2. *German minor.* German 315 or 325, 317 plus six units of upper-division electives to be selected in consultation with the student's adviser.
3. *Portuguese minor.* Portuguese 315 or 325, 317 or 318 plus six units of upper-division electives to be selected in consultation with the student's adviser.
4. *Spanish minor.* Spanish 315 or 316, 317 or 318 plus six units of upper-division electives to be selected in consultation with the student's adviser.

ADMISSION TO TEACHER EDUCATION PROGRAMS

Students interested in applying to a credential or a certificate program must consult with a teacher education adviser for a preliminary program review in the semester prior to their application to the program. Information concerning the programs is available from the Department of Foreign Languages and Literatures.

SINGLE SUBJECT CREDENTIAL, SPECIALIZATION IN SECONDARY EDUCATION

Before being admitted to a credential program, all prospective teachers may be asked to pass a proficiency examination in which their skills of listening, speaking, reading, writing and knowledge of linguistic principles will be tested. Students should make arrangements with the department to take the test during their junior year. This single subject waiver program has been approved by the Commission for Teacher Preparation and Licensing through December 31, 1983. Students wishing to pursue a single subject credential in this area after that date should contact the department office for current information.

MULTIPLE SUBJECT CREDENTIAL WAIVER FOR FOREIGN LANGUAGE MAJORS

The State Commission for Teacher Preparation and Licensing has approved the department's foreign language majors for the Multiple Subject Credential option of the Teacher Preparation and Licensing Law of 1970 (Ryan Act). For further information consult the Department of Foreign Languages and Literatures.

CERTIFICATE FOR TEACHERS OF ENGLISH AS A SECOND LANGUAGE

In cooperation with the Departments of English and Linguistics, the Department of Foreign Languages and Literatures offers a Certificate for Teachers of English as a Second Languages (TESOL). The program consists of 24 units, some of which (with consent of the admitting committee) may

be taken during the candidate's undergraduate study. In order to participate in the program, students must declare the TESOL Certificate along with their degree objective.

Admission Requirements

1. Senior standing or admission to either postbaccalaureate or graduate standing.
2. Overall GPA of 2.5 (minimal) and 3.0 in the major.
3. Completion of English 301 and 303 with grades of B or better.
4. At least two years of one foreign language or one year each of two different languages or the equivalent. This requirement will normally be waived for students from foreign countries who have studied English as a foreign language.
5. An interview to determine oral proficiency in English at the time of application.
6. Consent of the admitting committee to enter the program and to develop a study plan.

Program Requirements

1. Required Core (12 units): Foreign Language Education 443A, 443B, 468 (or Spanish 468) and 596 (or Linguistics 596)
2. Electives (12 units) chosen, in consultation with the adviser, from the following:
   a. English (3 units): English 305, 490, 491 (if appropriate), 570
   b. Foreign Languages (3 units): French, German, Spanish 466, Spanish 467, Foreign Language Education 527
   c. Linguisitics (3 units): Linguistics 351, 403, 406, 505, 507, 508
   d. Other (3 units): an appropriate course from the above or a course in American studies, American literature, American governmental institutions, speech communication or foreign languages and literatures.
3. Maintenance of a 3.0 GPA while in the program.

The M.S. in TESOL (Teaching English to Speakers of Other Languages) is offered by the Division of Teacher Education within the School of Human Development and Community Services in conjunction with the Department of Foreign Languages and Literatures. See "Graduate Programs."

INTERNATIONAL PROGRAMS

In accordance with recommendations made by the Modern Language Association of America, the Department of Foreign Languages and Literatures encourages all majors interested in a teaching career to participate in a study-abroad program. This will enable a student to perfect mastery of the language and will afford additional insights into the foreign culture. The California State University's International Programs offers a wide variety of study opportunities on the junior, senior and graduate level.

Language majors are required to complete the following minimum of courses on campus before departure for, or upon return from, overseas:

A. for the B.A.: 12 units of upper-division courses consisting of a minimum of nine units at the 400 level in the major
B. for the M.A.: 15 units consisting of a minimum of 12 units at the 500 level in the area of specialization.

THE LANGUAGE LABORATORY

Students enrolling in courses 101, 102, 203, 204 are required, in addition to the regular class periods, to practice in the language laboratory. The 36-station laboratory operates like a library; students may use it at a time most convenient to them preferably every day in sessions of 15 to 30 minutes. Further details will be announced by each instructor and by the supervisor of the language laboratory.

Students are invited to make use of the collection of literary and cultural recordings in French, German, Portuguese, Russian and Spanish available in the language laboratory.

The CSU/UCLA Cooperative Program in Foreign Languages and Literatures

The Cooperative Program in Foreign Languages and Literatures gives students the opportunity, without additional fees, to take courses in foreign languages not available on this campus or any neighboring CSU campus but offered at UCLA. For information regarding enrollment and qualifications, interested students should inquire at this office.

MASTER OF ARTS IN FRENCH, GERMAN OR SPANISH

See "Graduate Programs."

FOREIGN LANGUAGE COURSES

196 Student-to-Student Tutorials (1–3)
See index.

198 Programmed Courses in Uncommonly Taught Languages (1–3)
Intensive individualized programmed instruction in specific languages other than those regularly offered, such as Turkish. To develop the skills of auditory comprehension and speaking in the language to form a basis for later development of the reading and writing skills. A minimum of 3 hours per week in the learning laboratory and regular sessions with native informants are required for each unit of credit. May be repeated for credit.

496 Student-to-Student Tutorials (1–3)
See index.

FOREIGN LANGUAGE EDUCATION COURSES

105A,B English as a Second Language (4)
English for non-native speakers. Practice in listening comprehension, speaking, reading and writing to improve control of the basic sounds and structures of English. Language laboratory assignments are included. (Same as Linguistics 105A,B)

442 Teaching Foreign Languages in the Secondary School (3)
Prerequisites: French, German or Spanish 466; and admission to teacher education or consent of instructor. Principles, methods and materials of language learning and teaching. Includes lectures, activities and fieldwork. Required before admission to student teaching.

443A Principles of Teaching English to Speakers of Other Languages (3)
Prerequisite: French, German or Spanish 466 or Linguistics 406. Recent trends, including the expanded use of electromechanical aids, programmed instruction and applied linguistics in the teaching of English to speakers of other languages. Techniques related to auditory comprehension and oral production of English. (Same as Linguistics 443A.)

443B Principles of Teaching English to Speakers of Other Languages (3)
Prerequisite: French, German or Spanish 466 or Linguistics 406. Recent trends, including the use of electromechanical aids, programmed instruction, and applied linguistics in the teaching of English to speakers of other languages. Techniques related to the reading and writing of English. (Same as Linguistics 443B)

449A Teaching Foreign Languages in the Secondary School (10)
See description under Division of Teacher Education.

449B Student Teaching Seminar (2)
See description under Division of Teacher Education.

468 TESOL Contrastive Analysis (3)
Prerequisites: junior standing or above, successful completion of Spanish, French or German 466 and at least one 400-level linguistics class. Theory and performance techniques for contrasting phonological, grammatical and lexical structures of English and three selected world languages.

527 Theory of Bilingual Language Acquisition (3)
Prerequisites: Spanish, French or German 466 and Spanish 468 or Foreign Language Education 468 or Linguistics 406 and consent of instructor. Methodology for research in bilingual language acquisition and development; socio-linguistic and psycholinguistic patterns in bilingualism; interactions of language and culture in the language acquisition process.

596 TESOL Practicum (3)
Prerequisites: Foreign Language Education 443A,B, Spanish 468 or Foreign Language Education 468 and one elective. Teaching English to speakers of other languages on campus or in local schools. Supervised by faculty and cooperating individuals. Seminar meetings by arrangement. May be repeated for credit upon consent of adviser.

ARABIC COURSES

101 Fundamental Arabic—A (4)
Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of modern standard Arabic.

102 Fundamental Arabic—B (4)
Prerequisite: Arabic 101 or equivalent. Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of modern standard Arabic.

299 Directed Study (1–3)
Prerequisite: Arabic 102 or equivalent. Supervised study projects in Arabic language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

CHINESE COURSES

101 Fundamental Chinese—A (4)
Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Chinese. Audiolingual assignments in the language laboratory. Conducted in Chinese.

102 Fundamental Chinese—B (4)
Prerequisite: Chinese 101 or equivalent. Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Chinese. Audiolingual assignments in the language laboratory. Conducted in Chinese.

299. Directed Study (1–3)
Prerequisite: Chinese 102 or equivalent. Supervised study projects in Chinese language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

FRENCH COURSES

101 Fundamental French—A (5)
Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of French. Audiolingual assignments in the language laboratory. Conducted in French.

102 Fundamental French—B (5)
Prerequisite: French 101 or equivalent. Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and basic structure of French. Assignments in the language laboratory. Conducted in French.

203 Intermediate French—A (3)
Prerequisite: French 102 or equivalent. Practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

204 Intermediate French—B (3)
Prerequisite: French 203 or equivalent. Practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

230 Intermediate Diction and Phonetics (2)
Practice in oral delivery of cultural and literary materials. Analysis of individual problems in pronunciation. May be taken concurrently with French 203. Conducted in French.

240 Intermediate Conversation and Composition (2)
Prerequisite: French 203 or equivalent. Discussion and practice in written expression based on cultural and literary materials. May be taken concurrently with French 204. Conducted in French.

300 French Conversation (3)
Prerequisite: French 204 or equivalent. Development of oral control of the language in the context of students' own or contemporary concerns. Conducted in French.

307 French Film (3)
Prerequisite: French 204 or equivalent. The developing art of the French film, with special emphasis on the many roles of language. Subjects treated include: montage, visual/verbal meaning, literary/cinematic narrative, non-realistic language, read language, non-narrative continuity. Conducted in French.

310 French in the Business World (3)
Prerequisite: French 204 or consent of instructor. Designed to give students a working knowledge of business language (oral and written) in the French-speaking world. Emphasis on cultural and sociological contexts of business procedures. Analysis of appropriate current periodicals. Conducted in French.

311 French for International Business (3)
Prerequisite: French 204 or consent of instructor. Designed to give students experience in reading comprehension and analysis of materials dealing with economic and political realities in the French-speaking world. Analysis of appropriate current periodicals. Conducted in French.

315 Origins of Modern France (3)
Prerequisite: French 204 or equivalent. The social, intellectual and artistic origins of French civilization: feudal society becoming the *ancien regime;* the medieval world-view transformed by the Renaissance. Literary selections in modern French translation. Conducted in French.

317 Advanced Composition and Grammar (3)
Prerequisite: French 204 or equivalent. Free oral and written expression. Conducted in French.

318 Advanced Composition and Grammar (3)
Prerequisite: French 317 or equivalent. The control of French as an instrument for free oral and written expression. Conducted in French.

325 Contemporary French Civilization (3)
Prerequisite: French 204 or equivalent. Reading and discussion to develop understanding of the social and intellectual problems, trends, and contributions of present-day France. Strengthening facility in the language. Conducted in French.

375 Introduction to Literature (3)
Prerequisite: French 204 or equivalent. The nature of human language, the literary use of language, literary creation, reading, and what critics are able to say about literary works. Reading and discussion of some typical, mainly contemporary, texts. Conducted in French.

415 French Classicism (3)
Prerequisites: French 317 and 375. The decisive moment in French experience. Focus on literature of the Classic period (1660–1685) but open at both ends to include the formation and perenniality of French Classicism. Conducted in French.

425 French Romanticism (3)
Prerequisites: French 317 and 375. The revolution in feeling and intellect in 19th-century France. The Romantic period (1820–1850). May include material preceding or following those dates. Conducted in French.

466 Introduction to French Linguistics (3)
Prerequisite: French 317 or 318. Analytical procedures of general linguistics applied to French. Structural contrasts between French and English. The application of linguistic analysis to the teaching of modern foreign languages.

475A,B,C,D Seminar in 20th-Century French Literature (3,3,3,3)
Prerequisites: French 315, 317, 375, and 415 or 425. If 415 or 425 has not been completed, one must be taken concurrently. The study of 20th-century French literature organized around four major themes. Conducted in French.

475A Exploration of the Self (3)
Search for identity and the quest for personal authenticity. The role of the conscious and unconscious mind and of artistic creativity. Proust, Gide, Mauriac, Valéry, etc.

475B In Search of the Real (3)
The surrealist revolt against bourgeois logic, mores and literature. From Dada to automatic writing to Revolution to *l'amour fou.* Includes precursors and kindred spirits (e.g. Lautréamont, Jarry).

475C The Individual and Society (3)
Attitudes toward personal freedom; the existential sense of responsibility toward one's fellows. Saint-Exupéry, Malraux, Sartre, Camus, etc.

475D Beyond Despair (3)
Writers after World War II seeking tough-minded visions to replace the humanism of the '30's, new kinds of hope "beyond despair", (Sartre's "la vraie vie commence au-delà du désespoir").

485 Senior Seminar in French Literature (3)
Prerequisites: French 315, 317, 375, and senior standing. A literary current, period, author, genre or problem. Subject will change each time course is given. May be repeated for credit. Conducted in French.

499 Independent Study (1–3)
Supervised projects in French language or literature. Consent of the instructor and department chair required. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)
Prerequisite: consent of instructor. Conducted in French.

520 Graduate Seminar: Old French (3)
Prerequisite: consent of instructor. Readings in the medieval literature of northern France. A variety of dialects and centuries. Conducted in French.

530 Graduate Seminar: Historical Linguistics (3)
Prerequisites: French 466 or consent of instructor. Some previous study of Latin recommended. Introduction to the principles of historical linguistics. Primary emphasis on the transformation of classical Latin (phonology, morphology, syntax and lexicon) into contemporary French. Conducted in French.

557 Graduate Seminar: French Poetry (3)
Prerequisite: consent of instructor. Conducted in French.

571 Graduate Seminar: French Prose (3)
Prerequisite: consent of instructor. Conducted in French.

575 Graduate Seminar: French Drama (3)
Prerequisite: consent of instructor. Conducted in French

576 Graduate Seminar: Major Writers (3)
Prerequisite: consent of instructor. May be repeated for credit. Conducted in French.

598 Thesis (3–6)
Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1–3)
Prerequisites: fluency in French and consent of instructor. Supervised research projects in French language or literature. May be repeated for credit.

GERMAN COURSES

100A-J Personalized Instruction in Fundamental German (3–10)
Equivalent to German 101 or 102. Students may enter at any level but must initially register for a minimum of three units. Course is divided into 10 one-unit modules. Students work independently and meet individually with instructors for consultation and tests.

101 Fundamental German—A (5)
Practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of German. Audiolingual assignments in the language laboratory.

102 Fundamental German—B (5)
Prerequisite: German 101 or equivalent. Practice in listening comprehension, speaking, reading, and writing on a basic level. Audiolingual assignments in the language laboratory.

203 Intermediate German—A (3)
Prerequisite: German 102 or equivalent. Practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

204 Intermediate German—B (3)
Prerequisite: German 203 or equivalent. Practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

213 Intermediate Reading (2)
Prerequisite: German 102 or equivalent. Reading comprehension development. Required for major and minor. May be taken concurrently with German 203. Conducted in German.

214 Intermediate Reading (2)
Prerequisite: German 203 or equivalent. Continuation of German 213. Reading comprehension development. Required for major and minor. May be taken concurrently with German 204. Conducted in German.

300 German Conversation (3)
Prerequisite: German 204 or equivalent. Development of oral control of the language in the context of students' own or contemporary concerns. Conducted in German.

310 German in the Business World (3)
Prerequisite: German 204 or consent of instructor. Designed to give students a working knowledge of business language in the German-speaking world. Emphasis on business correspondence, conversation between business partners and the language of advertising. Conducted in German.

311 German for International Business (3)
Prerequisites: German 204; 310 recommended. Designed to give students experience in reading comprehension and oral analysis of materials dealing with economic and political realities in the German-speaking world, seen in their cultural and sociological context. Conducted in German.

315 Introduction to German Civilization (3)
Prerequisite: German 204 or equivalent. Open to lower-division students with consent of instructor. Readings and discussions in German literature, arts and institutions to develop insights into German culture, while strengthening facility with the language. Conducted in German.

317 Advanced Conversation and Composition (3)
Prerequisite: German 204 or equivalent. Open to lower-division students with consent of instructor. Free oral and written expression. Conducted in German.

325 Current Trends in Culture of German-Speaking Peoples (3)
Prerequisite: German 204 or equivalent. Open to lower-division students with consent of instructor. Readings and discussion of German contributions to present-day civilization while strengthening facility with German language. Conducted in German.

375 Introduction to Literary Forms (3)
Prerequisite: German 317 or consent of instructor. The principal literary forms, prose fiction, poetry, drama and the essay and the major concepts of literary techniques and criticism. Analysis and interpretation of various texts. Conducted in German.

399 German Phonetics (2)
Prerequisites: junior standing and consent of instructor. Analysis of individual problems in pronunciation. Work in class and the language laboratory. May be repeated for credit. Conducted in German.

430 German Literature and Culture to the Baroque (3)
Prerequisites: German 315, 317 and 375, or consent of instructor. Masterpieces of German literature from the *Hildebrandslied* to *Der Abenteuerliche Simplicissimus* and their relationship to cultural, historical and intellectual developments between ca. 800–1670 A.D. Conducted in German.

440 18th-Century German Literature and Culture (3)
Prerequisites: German 315, 317 and 375, or consent of instructor. The principal authors and movements (Enlightenment, Storm and Stress, Classicism, early Romanticism) of the 18th century. Conducted in German.

450 19th-Century German Literature and Culture (3)
Prerequisites: German 315, 317 and 375, or consent of instructor. 19th-century German literature from Romanticism to Naturalism. Decisive philosophic, political and economic influences. Conducted in German.

460 20th-Century German Literature and Culture (3)
Prerequisites: German 315, 317, 375, or consent of instructor. Major German prose, drama and poetry of the 20th century. Conducted in German.

466 Introduction to German Linguistics (3)
Prerequisite: German 317 or consent of instructor. Analytical procedures of general linguistics as applied to German. Structural contrasts between German and English. The application of linguistic analysis to the teaching of modern foreign languages.

485 Senior Seminar in German Literature (3)
Prerequisite: senior standing in German. Research and discussion of a literary movement, a genre or an author. Subject varies and is announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

499 Independent Study (1-3)
Supervised research projects in German language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)
Prerequisite: consent of instructor. Conducted in German.

510 Graduate Seminar: Phonology (3)
Prerequisite: German 466 or consent of instructor. Conducted in German.

530 Graduate Seminar: Historical Linguistics (3)
Prerequisite: German 466 or consent of instructor. Conducted in German.

550 Interpretation of Literature (2)
Prerequisite: consent of instructor. Interpretation of literary works in advanced language classes. May be repeated for credit with a different topic. Conducted in German.

571 Graduate Seminar: German Literature (3)
Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

576 Graduate Seminar: Major Writers (3)
Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

598 Thesis (3-6)
Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)
Prerequisites: fluency in German and consent of instructor. Supervised research projects in German language or literature. May be repeated for credit.

GREEK COURSES

101 Fundamental Greek—A (3)
Practice to develop a reading knowledge and a writing ability in ancient Greek. Biblical texts.

102 Fundamental Greek—B (3)
Prerequisite: Greek 101 or equivalent. Practice to develop a reading knowledge and a writing ability in ancient Greek. Biblical texts.

299 Directed Study (1–3)
Prerequisite: Greek 102 or equivalent. Supervised study projects in Greek language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

HEBREW COURSES

101 Fundamental Hebrew—A (4)
Practice in listening comprehension, speaking, reading and writing Hebrew.

102 Fundamental Hebrew—B (4)
Prerequisite: Hebrew 101. Practice in listening comprehension, speaking, reading and writing Hebrew.

299 Directed Study (1-3)
Prerequisite: Hebrew 102 or equivalent. Supervised study projects in Hebrew language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

ITALIAN COURSES

101 Fundamental Italian—A (4)
Practice in listening comprehension, speaking and writing of Italian. Audiolingual assignments in the language laboratory. Conducted in Italian.

102 Fundamental Italian—B (4)
Prerequisite: Italian 101 or equivalent. Practice in listening comprehension, speaking, reading and writing of Italian. Audiolingual assignments. Conducted in Italian.

299 Directed Study (1–3)
Prerequisite: Italian 102 or equivalent. Supervised study projects in Italian language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

JAPANESE COURSES

101 Fundamental Japanese—A (4)
Practice in listening-comprehension, speaking and writing of Japanese. Audiolingual assignments in the language laboratory. Conducted in Japanese.

102 Fundamental Japanese—B (4)
Prerequisite: Japanese 101 or equivalent. Practice in listening-comprehension, speaking and writing of Japanese. Audiolingual assignments in the language laboratory. Conducted in Japanese.

203 Intermediate Japanese—A (3)
Prerequisite: Japanese 102 or equivalent. Instruction in reading, writing, speaking, and comprehending of modern Japanese. Conducted in Japanese.

204 Intermediate Japanese—B (3)
Prerequisite: Japanese 203 or equivalent. Instruction in reading, writing, speaking and comprehending of modern Japanese. Conducted in Japanese.

299 Directed Study (1–3)
Prerequisite: Japanese 102 or equivalent. Supervised study projects in Japanese language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

LATIN COURSES

101 Fundamental Latin—A (3)
Practice to develop a reading knowledge and a writing ability in Latin. Modern techniques of language instruction will be applied.

102 Fundamental Latin—B (3)
Prerequisite: Latin 101 or equivalent. Practice to develop a reading knowledge and a writing ability in Latin. Modern techniques of language instruction will be applied.

299 Directed Study (1-3)
Prerequisite: Latin 102 or equivalent. Supervised study projects in Latin language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

PORTUGUESE COURSES

101 Fundamental Portuguese—A (4)
Prerequisite: previous study of a Romance language. Listening comprehension, speaking, reading comprehension, and writing of Portuguese. Conducted in Portuguese.

102 Fundamental Portuguese—B (4)
Prerequisite: Portuguese 101 or equivalent. Listening comprehension, speaking, reading comprehension of Portuguese. Conducted in Portuguese.

315 Introduction to Luso-Brazilian Culture and Civilization (3)
Prerequisite: Portuguese 102 or equivalent, reading knowledge of Portuguese or consent of instructor. The main currents of Portuguese culture and civilization and Brazil's intellectual and artistic development from discovery to independence. Conducted in Portuguese.

317 Advanced Conversation and Composition (3)
Prerequisite: Portuguese 102 or equivalent or consent of instructor. Emphasis on free oral and written expression. Conducted in Portuguese.

318 Advanced Conversation and Composition (3)
Prerequisite: Portuguese 102 or equivalent or consent of instructor. Use of Portuguese as an instrument of free oral and written expression. Conducted in Portuguese.

325 Contemporary Brazilian Civilization (3)
Prerequisite: Portuguese 315 or consent of instructor. Readings and discussion to develop understanding of the social and intellectual problems, trends, and contributions to Brazil since independence. Present day Brazil. Conducted in Portuguese.

431 Portuguese Literature (3)
Prerequisite: Portuguese 315 or consent of instructor. Portuguese literature from the Middle Ages to the present. The major works of Gil Vicente, Luis de Camoens, Eça de Queiroż and others examined from an aesthetic and cultural standpoint. Conducted in Portuguese.

441 Brazilian Literature (3)
Prerequisite: consent of instructor. The literature of Brazil from the colonial period to the present. Conducted in Portuguese.

499 Independent Study (1-3)
Supervised projects in Portuguese language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

SPANISH COURSES

101 Fundamental Spanish—A (5)
Intensive practice in listening comprehension, speaking, reading and writing of Spanish. Assignments in the language laboratory. Conducted in Spanish.

102 Fundamental Spanish—B (5)
Prerequisite: Spanish 101 or equivalent. Practice in listening comprehension, speaking, reading and writing of Spanish. Assignments in the language laboratory. Conducted in Spanish.

103 Intensive Review of Fundamental Spanish (5)
For students who have completed 3 years of high school Spanish or equivalent and need an intensive review of first-year Spanish, equivalent to Spanish 101 and 102. Assignments in the language laboratory. Conducted in Spanish.

201 Spanish for Hispanics (3)
Prerequisite: consent of instructor. An intermediate course designed to improve the communication skills in Spanish for bilingual students. Emphasis on spelling, grammar and composition. Conducted in Spanish. Students may not receive credit for both Spanish 201 and 203.

203 Intermediate Spanish—A (3)
Prerequisite: Spanish 102 or equivalent. Practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

204 Intermediate Spanish—B (3)
Prerequisite: Spanish 203 or equivalent. Practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

213 Intermediate Conversation (2)
Practice in oral expression. May be taken concurrently with Spanish 203. Conducted in Spanish.

214 Intermediate Composition (2)
Practice in written expression based on cultural and literary materials. May be taken concurrently with Spanish 204. Conducted in Spanish.

299 Spanish Diction and Phonetics (2)
Prerequisite: concurrent enrollment in, or former completion of, a 200-level Spanish course. Analysis of students' specific problems in pronunciation. Work in class and the language laboratory. May be repeated for credit. Conducted in Spanish.

300 Spanish Conversation (3)
Prerequisite: Spanish 204 or equivalent. To develop oral control of the language in the context of students' own or contemporary concerns. No credit for major. Conducted in Spanish.

310 Spanish in the Business World (3)
Prerequisite: Spanish 204 or consent of instructor. Practical vocabulary and structure of business language, as well as the cultural background of business procedures in the Hispanic world. No credit toward Spanish major. Conducted in Spanish.

315 Introduction to Spanish Civilization (3)
Prerequisite: Spanish 204 or equivalent or consent of instructor. Readings and discussions in Spanish literature, arts and institutions. Strengthening of facility in the language. Conducted in Spanish.

316 Introduction to Spanish-American Civilization (3)
Prerequisite: Spanish 204 or equivalent or consent of instructor. Readings and discussion in Spanish-American literature, arts and institutions. Strengthening of facility in the language. Conducted in Spanish.

317 Advanced Conversation and Composition (3)
Prerequisite: Spanish 204 or equivalent. Open to lower-division students with consent of instructor. Emphasis on free oral and written expression. Conducted in Spanish.

318 Advanced Spanish Syntax and Composition (3)
Emphasis on linguistic problems of the Spanish/English bilingual student in connection with written expression. Conducted in Spanish.

375 Introduction to Literary Forms (3)
Prerequisite: Spanish 317 or consent of instructor. Introduction to literary forms and concepts of literary techniques and criticism. Analysis and interpretation of various texts. Strengthening of students' abilities in reading, language and literary criticism. Conducted in Spanish.

400 Spanish for Advanced Students and Teachers (3)
Prerequisite: Spanish 317 or 318 or consent of instructor. Spoken and written Spanish. Development of students' powers of self-expression and ability to analyze the structure of the written language. Conducted in Spanish.

415 Contemporary Spanish Culture (3)
Prerequisite: Spanish 315 or consent of instructor. The cultural—social, economical, political—characteristics of contemporary Spanish life. Conducted in Spanish.

416 Contemporary Spanish-American Culture (3)
Prerequisite: Spanish 316 or consent of instructor. The social, economic, artistic, and political aspects of contemporary life in Spanish America. Conducted in Spanish.

430 Spanish Literature to Neoclassicism (3)
Prerequisite: Spanish 315 and 375. Spanish literature from its beginnings to 1700. Representative works of each genre. Conducted in Spanish.

441 Spanish-American Literature (3)
Prerequisites: Spanish 316 and 375 or consent of instructor. Spanish-American Literature from *modernismo* to the present. Conducted in Spanish.

461 Spanish Literature Since Neoclassicism (3)
Prerequisites: Spanish 315 and 375 or consent of instructor. Representative works of 19th- and 20th-century Spain. Conducted in Spanish.

466 Introduction to Spanish Linguistics (3)
Prerequisite: Spanish 317 or 318 or equivalent with consent of instructor. The analytical procedures of general linguistics as applied to Spanish. Structural contrasts between Spanish and English. The application of linguistic analysis to the teaching of modern foreign languages. Conducted in Spanish.

467 Dialectology: Current Trends in Modern Spanish (3)
Prerequisites: Spanish 317 or 318, 400 or equivalent and 466, which may be taken concurrently. The differences in phonology, morphology, syntax and lexicon in linguistic patterns in all Spanish-speaking regions. Conducted in Spanish.

468 Spanish-English Contrastive Analysis (3)
Prerequisites: Spanish 317 or 318, 400 or equivalent, and 466 which may be taken concurrently. Theory and performance techniques for contrasting phonological, grammatical and lexical structures of Spanish and English. Conducted in Spanish.

475 Senior Seminar: Topics in Spanish Peninsular Literature (3)
Prerequisite: senior standing in Spanish. Selected topics of the literature of Spain. Subject matter will change. May be repeated for credit. Conducted in Spanish.

485 Senior Seminar: Topics in Spanish American Literature (3)
Prerequisite: senior standing in Spanish. Selected topics of the literature of Spanish America. Subject matter will change. May be repeated for credit. Conducted in Spanish.

499 Independent Study (1-3)
Supervised research projects in Spanish language or literature to be taken with consent of instructor and department chair. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)
Prerequisite: Spanish 466 or equivalent. Conducted in Spanish.

530 Graduate Seminar: Historical Linguistics (3)
Prerequisite: Spanish 466 or equivalent. Conducted in Spanish.

556 Graduate Seminar: Spanish Poetry (3)
Prerequisite: Spanish 430 or 461 or equivalent. Conducted in Spanish.

557 Graduate Seminar: Spanish-American Poetry (3)
Prerequisite: Spanish 441 or equivalent. Conducted in Spanish.

567 Graduate Seminar: Spanish-American Novel (3)
Prerequisite: Spanish 441 or equivalent. Conducted in Spanish.

571 Graduate Seminar: Spanish Prose (3)
Prerequisite: Spanish 430 or 461 or equivalent. Conducted in Spanish.

575 Graduate Seminar: Spanish Drama (3)
Prerequisite: Spanish 430 or 461 or equivalent. Conducted in Spanish.

576 Graduate Seminar: Hispanic Topics (3)
Prerequisite: Spanish 430 or 441 or 461 or equivalent. May be repeated for credit with different subject matter. Conducted in Spanish.

598 Thesis (3-6)
Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)
Prerequisites: fluency in Spanish and consent of instructor. Supervised research projects in Spanish language or literature. May be repeated for credit.

DEPARTMENT OF GEOGRAPHY

FACULTY
Wayne Engstrom
Department Chair
Peter Eilers, Gary Hannes, Ronald Helin, William Ketteringham, Tso-Hwa Lee, Bill Puzo, Gertrude Reith, Imre Sutton, Barbara Weightman, Robert Young

The major in geography provides knowledge of variation in locational patterns and processes of the earth's physical and cultural features. From this course of study, students gain an appreciation for the richness and diversity of the world's human and physical environments and regional settings. They are furnished with sound preparation for employment in both the private and public sectors. The field also provides a foundation for teaching at the elementary and secondary levels and for advanced geographic study on the graduate level leading to university teaching and research.

Students and counselors are advised that departmental offerings are numbered according to *course content* as follows.

general courses:	00-09 (e.g., Geography 100)
physical courses:	10-29 (e.g., Geography 110 or 323)
regional courses:	30-49 (e.g., Geography 344 or 431)
human courses:	50-79 (e.g., Geography 160 or 367)
technical courses:	80-89 (e.g., Geography 280 or 381)
special studies:	90-99 (e.g., Geography 495 or 599)

JOB-RELATED EMPHASES

Geography graduates typically find employment opportunities in such areas as environmental analysis, urban affairs, regional and urban planning, the travel industry and related technical fields. A program of study leading to specialization in these and other career areas may be designed in consultation with the undergraduate adviser.

BACHELOR OF ARTS IN GEOGRAPHY

The major consists of at least 42 units of geography, excluding all work used to satisfy the general education requirements and including:

A. A 9-unit geography core (110, 160, 280)

B. A 12-unit breadth requirement in upper-division geography, including one course from each of the following groups—*physical, regional, human, technical.*

C. A six-unit requirement in 400-level geography, excluding the 490s and all work used to satisfy the 12-unit breadth requirement.

Students may satisfy requirements A, B and C with equivalent course work taken at other institutions; they may also transfer into the major an additional six units of lower-division geography and an unlimited amount of upper-division geography.

No *unit* credit toward the major will be allowed for geography courses in which a grade of D is received. *Content* credit for such courses may be allowed by the *departmental undergraduate adviser.*

UPPER-DIVISION BACCALAUREATE WRITING REQUIREMENT

Geography 300, designated to meet the classroom portion of the upper-division writing requirement, constitutes three units to be taken in addition to the 42 units required in the major.

For students exempt from this writing requirement, Geography 300 may be taken as part of the 42-unit major, but it cannot serve to satisfy the departmental breadth requirement in techniques.

MINOR IN GEOGRAPHY

The minor in geography serves students who wish to pursue a second field related to interdisciplinary studies or an elective concentration. Interested students should take at least 21 units of geography, including the *core* (110, 160, 280) and a minimum of nine units of upper-division work from at least three of the following groups—*physical, regional, human, technical.*

MASTER OF ARTS IN GEOGRAPHY

See "Graduate Programs."

GEOGRAPHY COURSES

100 World Habitats (3)

The world's major geographical regions. The physical and human elements that differentiate the regions and give identity to each. Ways of life and the environments in which they are found.

110 Principles of Physical Geography (3)

The major components of the physical environment, including landforms, climate, natural vegetation and soils.

120 Environment and Change (3) (Formerly 150)

A geographic analysis of the use and misuse of environment.

160 Culture and Environment (3)

Patterns of settlement and livelihood, and the varying roles of population, social organization, religious and political ideologies, resources and technology.

170 Introduction to the City (3)

Geographic variations in the urbanization process, great world and American cities, and spatial patterns within the city. The city as a man-made environment.

280a–g Introduction to Geographical Analysis (1)

Prerequisite: minimum of one other core course in geography (i.e., 110 or 160) or consent of instructor. The technical interpretation of physical and human features and activities in the landscape. Majors must take a total of three units.

280a Interpretation of Maps and Aerial Photographs (1)

The uses of maps and aerial photographs in geographic research. Types of data which can be obtained from these sources. Rudimentary measurement techniques.

280b Introduction to Field Methods (1)

Geographic phenomena in their actual setting—"the field."

280c Introduction to Quantitative Methods (1)
Descriptive statistics in geography. Graphs, functions and equations, logarithms and exponents, and an overview of the linear regression model.

280e Library Techniques for Geographers (1)
Library research for geographic inquiry. How and where to find the needed information.

280g Analysis of Weather Maps (1)
The use and analysis of weather maps.

300 Geographical Writing (3)
Prerequisite: junior standing or 12 units in geography. Experience in and analysis of geography writing: reviews of literature, essays, major research paper, oral presentation. Group and tutorial sessions. Meets the classroom portion of upper-division writing requirement for geography majors.

312 Geomorphology (3)
Prerequisite: Geography 110 or Earth Science 101 or consent of instructor. Landforms and the processes responsible for their evolution.

323 Weather and Climate (3)
Prerequisite: Geography 110 or consent of instructor. Atmospheric elements and controls, fronts, severe weather, and climatic classification systems.

325 Plant Geography (3)
Prerequisite: Geography 110 or consent of instructor. World distribution, ecology, and patterns of vegetation, including human influences.

330 California Landscapes (3)
The landscapes of California—their environmental characteristics, development patterns and current problems.

332 United States and Canada (3)
Prerequisite: upper-division standing. The United States and Canada. The interrelated physical and cultural features that give geographic personality to the regions.

333 Latin America (3)
Prerequisite: upper-division standing. Middle and South America. The interrelationships of the physical and social factors of the area.

336 Europe (3)
Prerequisite: upper-division standing. The basic physical and human lineaments of Europe. The elements that distinguish and give character to its major regional divisions.

338 Soviet Union (3)
Prerequisite: upper-division standing. Physical, historical and political geography of the Soviet Union. Economic and social themes that lend identity to the country's major geographical regions.

344 Africa (3)
Prerequisite: upper-division standing. The physical, human and regional geography of Africa. Saharan borderlands, East Africa and Southern Africa.

346 Australia and the Pacific (3)
Prerequisite: upper-division standing. The physical, cultural and regional geography of Australia, New Zealand, Melanesia, Micronesia and Polynesia.

349A The Arctic (1)
The far northern lands and seas, including the Arctic Basin, the Northwest Passage, Greenland and the Northeast Passage. Attention to the natural setting, exploration and recent developments in resource use. (3 hours lecture and discussion per week for 5 weeks)

349B The Antarctic (1)
An introduction to Antarctica, with attention to its natural setting, discovery and exploration, political status, resource use, and techniques of living. (3 hours lecture and discussion per week for 5 weeks)

349C The Oceans (1)
The four oceans. Their discovery by Europeans; their appropriation; their use as commercial highways; their use as sources of food, fresh water and energy. (3 hours lecture and discussion per week for 5 weeks)

349D The Ocean Floors (1)
Prerequisite: upper-division standing. Depth and configuration of the sea floor. Living conditions at great depths. Entry by human beings. Extraction of natural resources. National claims to submarine territory. Submerged settlements. (3 hours lecture and discussion per week for 5 weeks).

350 Conservation and Ecology in America (3)
Prerequisite: upper-division standing. Environmental change and resource-use problems. Land ethics, environmental law, public policy and technological impacts.

352 Parks of North America (3)
The park system and its evolution as related to conservation, preservation, and recreational land use. Cultural heritage and physical environment.

357 Social Geography—Perception and Behavior (3)
Prerequisite: Geography 160 or consent of instructor. Perception and behavior in various spatial settings in cultural and physical environments. Significance to social planning.

359 Topics in Human Geography (1)
Prerequisite: upper-division standing. Social, cultural, economic or political relationships and the environment. May be repeated for credit.

360 Economic Geography (3)
The spatial distribution of economic activities: agriculture, manufacturing industries, and tertiary services.

362 Geography of Wine (3)
Vineyards and wineries of California and the world. Physical, historical, economic and social factors and forces. (Age 21 or over)

363 International Travel (3)
Prerequisite: junior standing. Natural and cultural conditions influencing travel; modes and routes of travel; and a cost/benefit evaluation of the economic, cultural and environmental impact of travel.

367 Geopolitics (3)
Prerequisite: upper-division standing. The geographic bases of political territories, from the municipal to the international level. Sovereign states and international affairs.

370 Urban Geography (3)
Prerequisite: upper-division standing. American metropolitan systems and city-region linkages. Theories and spatial models of social and economic patterns within cities and suburbs; planning implications of these locational patterns.

381 Cartography (3)
Prerequisite: geography core or consent of instructor. Compilation and construction of maps and graphs as geographic tools. The principles of effective cartographic representation. (1 hour lecture, 6 hours laboratory)

384 Airphoto and Image Interpretation (3)
Prerequisite: geography core or consent of instructor. Use of aerial photography, space photography and other remote sensors as tools and research sources. Interpretation of physical and cultural elements of the landscape. (2 hours lecture, 3 hours laboratory)

385 Quantitative Geography (3)
Prerequisite: geography core or consent of instructor. Spatial analysis and geographic application of descriptive and inferential statistics. Use of the electronic computer. (2 hours lecture, 2 hours activity.)

386 Data Processing for Geographic Information (3)
Prerequisite: geography core or consent of instructor. The digital computer in solving geographical problems. The acquisition of basic computer programming skills. Spatially-oriented problems. (2 hours lecture, 2 hours activity)

412 Regional Geomorphology of the United States (3)
Prerequisite: Geography 312 or consent of instructor. The major physiographic provinces of the United States. The record that present and past geomorphic processes have left on the landscape.

422 Regional Climatology (3)
Prerequisite: Geography 323 or consent of instructor. Major climatic regions of the world; the physical factors that produce climatic patterns.

426 Man and the Coastal Environment (3)
Prerequisite: Geography 110, 325 and 312 recommended. An ecological approach to man's impact on coastal environments, emphasizing the West Coast of North America.

431 Man's Impact on the California Environment (3)
Prerequisite: upper-division standing. Geographic problems caused by man's impact on the land and its resources.

450 Man, Hazards and Disasters (3)
Prerequisite: Geography 350 or Earth Science 101 or 120. The hazardous environment; impact of hazards and disasters on land utilization and settlement; adaptive strategies in land use planning.

463 Advanced Travel Geography (3)
Prerequisites: Geography 363, upper-division standing and consent of instructor. A research based course designed to examine the economic significance and geographic patterns of world travel. Students will prepare detailed descriptions of routes and conditions of commercial and passenger movement.

468 Law and Environment (3)
Prerequisite: Geography 350 or consent of instructor. The role of law in the management of resources and in environmental planning. Property and land use regulations.

472 Urban Dynamics and Planning (3)
Prerequisite: Geography 370 or consent of instructor. Urban development; the decentralizing forces operating in contemporary urban space; identification of trends in the planning process.

488 Land Use Analysis (3)
Prerequisites: geography core and consent of instructor. Urban and rural land use and settlement; geographic field problems. Application of geographic techniques and tools to local field studies.

489 Advanced Topics in Geo-Techniques (3)
Prerequisite: Geography 381, or 384, or 385, or 386 or consent of instructor. Selected topics pertaining to the theory and application of various geo-techniques. May be repeated more than once for credit as long as topic discussed is different.

495 Internship in Applied Geography (1–3)
Prerequisites: senior standing and consent of instructor. Students work specified number of hours in appropriate public or private organizations under the supervision of their staff and as coordinated by departmental faculty. Interns meet with instructor by arrangement. May be repeated for a maximum of three units of credit.

499 Independent Study (1-3)
Prerequisite: senior standing. Consent of instructor under whom study will be taken required before enrolling. May be repeated for a maximum of six units of credit.

530 Seminar: Selected Topics in Geography (3)
Prerequisite: graduate standing or consent of instructor. Various topics selected from any of the subfields of geography. The topic chosen and a general outline of the seminar are circulated prior to registration. May be repeated for credit.

590 Seminar in Geographic Research (3)
Prerequisites: graduate standing and consent of instructor. A required seminar to be taken prior to the development of a thesis. The research, organization and written preparation of a thesis proposal.

597 Project (3)
Prerequisites: Geography 590 and consent of adviser.

598 Thesis (3)
Prerequisites: completion of Geography 590, advancement to candidacy and consent of instructor.

599 Independent Graduate Research (1–3)
Open to graduate students by consent of instructor. May be repeated for credit.

GERONTOLOGY PROGRAM

FACULTY
Rosalie Gilford
Program Coordinator

PROGRAM COUNCIL

Helene Ballmer (Psychology), Natalie Barish (Biological Science), Tony Bell (Sociology), Rosalie

Gilford (Chair), Sallie Kerpan (Student), Loretta Nelson-Zietz (Student), Paul Pastor (Physical Education), Don Schweitzer (School of Humanities and Social Sciences), Barbara Talento (Nursing), David Walkington (Extended Education)

MINOR IN GERONTOLOGY

The gerontology minor is a multidisciplinary program that examines the biological, psychological and social changes experienced by most people during their adult lives. It is available and appropriate to strengthen and otherwise complement the course work of students in any major. Notation of the minor appears on the transcript and the diploma.

The minor in gerontology helps to prepare students for careers in business, government, industry, public and private agencies, and health and human service organizations by providing them with knowledge and critical understanding of the processes of adult development and aging. Gerontology is a field of study which students may analyze with the concepts, theories and methods learned in their major area of study. It introduces students to the field of services to older people. It provides a firm grasp of the historical development and possible future forms and processes of relationships between age groups in society.

The gerontology minor consists of 21 units in the following areas:

Lower Division (3 units)

Sociology 133 Introduction to Gerontology (3)

Upper Division (12 units)

Sociology 333 Sociology of Aging (3)

Psychology 362 Psychology of Aging (3)

Biology 306 Biology of Aging (3)

Nursing 360 Promoting Health of the Elderly (3)

Upper-Division Electives (6 units, adviser approved)

A 300/400 level course in a related field (3)

A 300/400 level internship in a related field (3)

Possible Electives

Human Services 385 Program Design and Proposal Writing (3)

Nursing 357 Health Promotion: Adult-Aged Nursing (3)

Philosophy 314 Medical Ethics (3)

Sociology 433 Aging and Social Services (4)

Sociology 446 Aging and Sexuality (3)

Sociology 460 Death and Dying (3)

Additional elective courses are available in selected departments across campus.

ADVISEMENT

Students are advised to see a program adviser prior to their first semester at the university as a gerontology minor. A flyer describing the gerontology minor in greater detail is available from the Cross-Disciplinary Programs office.

DEPARTMENT OF HISTORY

FACULTY

James Woodward
Department Chair

Gordon Bakken,* Warren Beck, Leland Bellot, Lauren Breese, Giles Brown,* Jack Crabbs, Lawrence de Graaf, Jack Elenbaas, George Etue, Robert Feldman, Charles Frazee, Arthur Hansen, B. Carmon Hardy, Harry Jeffrey, Sam Kupper, Sheldon Maram, Frederic Miller, Michael Onorato, David Pivar, Charles Povlovich, Jackson Putnam, Ronald Rietveld, Danton Sailor, Seymour Scheinberg, Gary Shumway, Cameron Stewart, Ernest Toy,* David Van Deventer, Nelson Woodard, Kinji Yada, Cecile Zinberg.

* University administrative officer

BACHELOR OF ARTS IN HISTORY

The undergraduate major in history is designed to provide cultural enrichment, a sense of alternative, and perspectives especially relevant to a society confronted with widespread institutional change. The department offers courses which expose the student to humanities' rich and diverse experience and the various methodologies and ways of thinking about our past. The major may be pursued to fulfill professional and cultural objectives common to a liberal arts program. It serves especially as a preparation for teaching, law, business, government and other fields.

To aid students pursuing specific career orientation, the History Department has developed advisement material concerning careers in law, public policy, international business, domestic business, archival/library work and religious studies. Students seeking to combine an interest in one of these fields with a history major should seek advisement as soon as possible. The History Department offers internships (History 498) which provide work experience as part of the regular class load.

The undergraduate program for the history major contains three well defined levels of study: introductory, intermediate and advanced. At the introductory level, the student has the opportunity to enroll in topical or survey courses in various fields. At the intermediate level, students build on the foundations established in early study, extending their understanding and moving toward greater sophistication in the use of historical materials. At the advanced level, they will devote themselves to seminar work and independent study in their area or areas of specialization, at which time they will be required to apply their knowledge and training in original and challenging ways.

The undergraduate major requires a total of 42 units: 12 in introductory classes, including 110A and 110B and 30 in intermediate and advanced courses. At the intermediate level, History 300A, Historical Thinking, and History 300B, Historical Writing, must be taken along with 18 units, six each in the three fields of United States history; European history; and Latin American, Asian or African history. At the advanced level the student will be required to enroll in a research seminar and any other elective, at the upper-division level.

Students majoring in history are encouraged to take work in other of the social sciences and humanities. Those intending to do graduate work in history should commence the study of at least one foreign language appropriate to the pursuit of advanced study in their particular specialty.

Program of Study for the Major

1. Introductory requirements:
   A. All students must complete both History 110A and 110B (6 units);
   B. The additional six units may be completed by taking:
      (1) History 170A *and* 170B, or
      (2) History 180 and one other three-unit history course
2. Intermediate requirements: 24 units
   A. History 300A,B
   B. At least six units of U.S. history
   C. At least six units of European history (including Ancient World)
   D. At least six units in Latin America, Middle East, Asian, African or Canadian history
3. Advanced requirements: 6 units
   A. History 490
   B. Three units of elective, upper-division level

HISTORY MAJOR AND THE RYAN ACT

The State Commission for Teacher Preparation and Licensing has approved the department's history major for the multiple subject credential option of the Teacher Preparation and Licensing Law of 1970 (Ryan Act), as well as for the single subject credential option in history and for the single subject credential option in the social sciences. The successful completion of any of the three subject waivers mentioned above permits a student to receive a credential without taking the State Licensing Examination. For further information consult the History Department.

MINOR IN HISTORY

Requirements 24 units

1. Lower-division course work—6–8 units (including general education requirements)
2. Upper-division course work—15–18 units
   a. 3 units of History 300A or 490
   b. 12–15 units approved by the undergraduate coordinator

MASTER OF ARTS IN HISTORY

See "Graduate Programs."

HISTORY MAJOR CATEGORIES

I. INTRODUCTORY COURSES (for undergraduate students)

A. *Survey Courses* (Lower division)
110A, Western Civilization to the 16th Century; 110B, Western Civilization Since the 16th Century; 170A,B, United States; 180, Survey of American History.

B. *Topical Course* (Lower division)
231, The Ascent of Man.

II. INTERMEDIATE COURSES (for undergraduate and graduate students)

A. *Historical Methodology* (Upper division)
300A, Historical Thinking; 300B, Historical Writing

B. *Subject Area Courses* (Upper division)

The Ancient World
415A, Classical Greece; 415B, Hellenistic Civilization; 417A, Roman Republic; 417B, Roman Empire

Europe
310, Behind the Lines: World War II; 340, Ancient and Medieval Britain: Law and Society; 341, Tudor-Stuart England; 342, History of Modern England and Great Britain; 395, A History of the First World War; 401, European Intellectual History from 1500 to the Present; History 405, History of the Jews; 410, World at War; 419, The Byzantine Empire; 421A,B, History of the Christian Church; 423A,B, Medieval Europe; 425A, The Renaissance; 425B, The Reformation; 426, Rise of Modern Europe, 1648–1763; 429, Europe Since 1914; 432, Modern Germany from the 18th Century; 434A, Russia to 1890; 434B, The Russian Revolution and the Soviet Regime; 437, East Europe; 439, History of Spain; 442, British Constitutional History from the Restoration to the Present.

Canada
380, Canada, 1534–1967.

Latin America
350, History of Latin American Civilization; 453A, B, Mexico.

Africa
458, Southern Africa in the 20th Century.

Asia
360, Modern Asia: Nationalism & Revolutionary Change; 460, Problems of the Contemporary Far East; 462A, B, History of China; 463A, B, History of Japan; 464A, Southeast Asia; 464B, History of Contemporary Southeast Asia; 465A,B, History of India.

Middle East
466A, Islamic Civilization: Arab Era; 466B, Islamic Civilization: Imperial Age; 467, Middle East in the 19th Century; 468, Middle East in the 20th Century.

United States
370, American Sex Reformers; 383, History of California; 384, Leisure in America: A Social History; 386A, B, American Social History; 394, The American Civil War; 470, American Colonial Civilization; 471, The United States From Colony to Nation; 472, Jeffersonian Themes in American Society, 1800–1861; 473, Democracy on Trial, 1845–1877; 474, The United States—1876–1914; 475, America Comes of Age, 1914–1945; 476, United States Since 1945; 478, The History of Orange County; 479, The Urbanization of American Life; 480, Development of American Law; 481, Westward Movement in the United States; 483, American Religious History; 484, American Legal and Constitutional History; 485A,B, United States Foreign Relations; 486, United States Cultural History; 487, History of American Parties and Politics; 488, Black American Since 1890.

Science and Technology
430A,B, History of Science.

World or Comparative
303A,B, Historical Dimension of Liberal Studies; 407, War and Civilization.

III. ADVANCED COURSES (for undergraduate and graduate students)
490, Senior Research Seminar; 492, Community History; 493A, Oral History; 498, Internship; 499, Independent Study.

IV. GRADUATE COURSES (for graduate students)
502, History and Historians; 503, Theory and History; 504, Historical Research; 520, Seminar in European History; 570, Seminar in American History; 590, History and Historians; 597, History Project; 598, Thesis; 599, Independent Graduate Research.

HISTORY COURSES

110A Western Civilization to the 16th century (3)
Western Civilization from its origins to the 16th century.

110B Western Civilization Since the 16th century (3)
Western Civilization from the 16th century to the present.

170A United States to 1877 (3) *
The political, social, economic and cultural development of the United States to 1877. Old World background, rise of the new nation, sectional problems, the Civil War and Reconstruction.

170B United States Since 1877 (3) *
U.S. history from the late 19th century to the present. Economic transformation, political reform movements, social, cultural, and intellectual changes, and the role of the United States in world affairs.

180 Survey of American History (3)
American history from prehistoric times (before 1492) to the present according to chronological time periods. Basic themes which pervade the entire sweep of the nation's history. Satisfies state requirement in U.S. history.

231 The Ascent of Man (3)
Science and technology in the development of human culture. Especially the development of science in western culture since the 17th century. Scientific concepts, their emergence, and the social impact of science.

300A Historical Thinking (3)
The nature of history, history of historical thought, and history's relationship to the humanities and social sciences. Seminar required of all history majors.

300B Historical Writing (3)
Prerequisite: History 300A (may be taken concurrently). Research and writing as related to historical topics. Meets the classroom portion of the upper-division writing requirement for history majors. Seminar required of all history majors.

303A,B Historical Dimension of Liberal Studies (3,3)
The origins and development of modes of thought and forms of expression in the three core areas of liberal studies, the natural sciences, the social sciences, and the arts and humanities.

310 Behind the Lines: World War II (3)
World War II. The home fronts, military occupation, the resistance, espionage, genocide and the war in historical perspective. Extensive use of films.

340 Ancient and Medieval Britain: Law and Society (3)
Britain from 55 B.C. to 1485. The constitutional, institutional and cultural aspects of Roman, Celtic, Anglo-Saxon, Norman and Plantagenet Britain.

341 Tudor-Stuart England (3)
England from the accession of Henry VII to the Glorious Revolution. The political, institutional, ecclesiastical and cultural aspects of the period of the Tudors and Stuarts.

342 History of Modern England and Great Britain (3)
Modern British history (Glorious Revolution to present). The achievement of constitutional monarchy, transition from agragarian to industrial society, establishment of political democracy and the rise of socialism.

350 History of Latin American Civilization (3)
The social, economic, political and cultural evolution of Latin America from the European conquest to the present.

360 Modern Asia: Nationalism and Revolutionary Change (3)
A modular analysis of nationalism, revolution and modernization as drawn from the experiences of the countries of China, Japan, India and Southeast Asia.

---

* Both History 170A and 170B must be taken to satisfy the state requirement in U.S. history.

370 American Sex Reformers (3)
Sex reform and its implication for social thought and behavior. Sex reformers to be considered are Havelock Ellis, Charlotte Perkins Gilman, Alfred Kinsey, William Masters and Virgina Johnson, and David Reuben.

380 Canada, 1534–1967 (3)
Canadian history from the founding of New France and the rise of British power in North America to the establishment of an independent Canadian nation which celebrated the centenary of self-governing status in 1967.

383 History of California (3)
The political, economic, and social history of California from the aboriginal inhabitants to the present; the development of contemporary institutions and the historical background of current issues.

384 Leisure in America: A Social History (3)
Leisure in America from the colonial period to the present. The contest in the early period between man's urge to play and the Puritan work ethic until the contemporary triumph of the fun society. (Same as Recreation 384)

386A American Social History 1750–1860
A social history of the United States to the Civil War; reform movements, temperance, moral purity, women's rights, anti-slavery, spiritualism and their importance to the formation of a modern society. (Same as American Studies 386A)

386B American Social History 1865–1930 (3)
A social history of the United States from the Civil War; reform, social organization and values. The woman's movement, censorship, divorce, the child and the limits of reform movements in an organizational society. (Same as American Studies 386B)

394 The American Civil War (3)
Prerequisites: History 170A or 180 or consent of instructor. A history of the American Civil War. Both contemporary and current analyses of the war will be amplified by the use of films and slides.

395 A History of the First World War (3)
Prerequisite: History 110B or consent of instructor. A history of the Great War stressing the military, social, economic and political aspects of the war. Films documentaries and special lectures.

396 Introduction to Public History (3)
Prerequisites: History 180 or its equivalent. Applications of history to activities outside of teaching and academic research. Will introduce archival work, historic preservation, exhibit interpretation, and historical research and writing in business, government and individual consulting.

401 European Intellectual History from 1500 to the Present (3)
The competing ideas in European history from 1500 to the present which have shaped modern European institutions.

405 History of the Jews (3)
The jewish people from the biblical period to the present. The literature of each period as well as the relationships which exist between the Jewish communities and the societies in which they exist.

407 War and Civilization (3)
The political and social implications of modern warfare, of the development of military technologies and of changing concepts of military organizations.

410 World War II (3)
A history of World War II: Films, documentaries, lectures and discussion.

415A Classical Greece (3)
The civilization of ancient Greece. The rise and flourishing of the classical city-states; the literary and philosophic contributions to modern civilization.

415B Hellenistic Civilization (3)
The hellenistic synthesis and the new patterns in government, the arts and sciences, philosophy and literature between the Macedonian conquest and the intervention of Rome.

417A Roman Republic (3)
Roman social and political institutions under the republic.

417B Roman Empire (3)
Roman imperial institutions and culture with attention to the rise of Christianity.

419 The Byzantine Empire (3)
The East Roman Empire from Constantine to the Ottoman conquest of 1453. Institutional aspects of Byzantine society: church, state, the economy, law and culture.

421A History of the Christian Church to 1025 (3)
The Christian Church from its origins in the apostolic preaching through the Middle Ages in both the East and West.

421B History of the Christian Church from 1025 to the Present (3)
The western church as an institution from 1025 to the present. Orthodoxy, Catholicism and Protestantism in historical perspective.

423A Medieval Europe, 300-1000 (3)
The emergence of western Europe from the decline of Rome to the age of the Vikings.

423B Medieval Europe, 1000-1400 (3)
The political, intellectual and artistic aspects of western Europe in the High Middle Ages.

425A The Renaissance (3)
Europe from 1400 to 1525. The beginnings of capitalism, the beginnings of the modern state, humanism, the pre-Reformation and the church on the eve of the Reformation.

425B The Reformation (3)
Europe from 1525 to 1648; The Protestants and Catholic Reformations; the religious wars; the price rise; royal absolution; the rise of science.

426 Rise of Modern Europe, 1648–1763 (3)
Prerequisite: History 110B. European diplomatic history and the balance of power from 1648 to 1763. The social and philosophical developments of the period.

429 Europe Since 1914 (3)
A survey of European history from 1914 to the aftermath of World War II.

430A History of Science: Ancient to Renaissance (3)
Western science and its role in culture from the third millennium B.C. through the beginnings of the Scientific Revolution of the 16th and 17th centuries. The hellenic, hellenistic and later medieval periods will receive special attention.

430B History of Science: Copernicus to the Present (3)
Science from the 16th century to the present especially the scientific revolutions of the 17th and 20th centuries and the interaction between science, technology and culture.

432 Modern Germany from the 18th Century (3)
German history from the era of Frederick the Great to the present.

434A Russia to 1890 (3)
The establishment of the Russian state at Kiev through the great reforms, the revolutionary movement and reaction of the 19th century. The shaping of contemporary Russia.

434B The Russian Revolutions and the Soviet Regime (3)
The 1905 and 1917 revolutions and the subsequent consolidation of power under the Communist regime. The continuity and change in Russian social political, cultural institutions and foreign policy effected by the impact of Marxist-Lennist-Stalinist ideology.

437 East Europe (3)
The political and social history of the central East European peoples.

442 British Constitutional History from the Restoration to the Present (3)
Prerequisite: History 340 or 341 or 342, or Political Science 375 or consent of instructor. Evolution of responsible government and the rule of law in Great Britain and dependent countries from the Age of Aristocracy, through industrialization and democratization, into an era of war and centralization.

453A Mexico to 1910 (3)
Mexico from the pre-Columbian period to 1910. The Indian heritage, the impact upon the native civilizations of the Spanish Conquest and the blending of Hispanic institutions with those of the first Mexicans.

453B Mexico Since 1910 (3)
The background of the Mexican Revolution of 1910; the revolution itself from 1910 to 1921; the political, economic, and social features; the Revolution as the first of the great upheavals of the 20th century.

458 Southern Africa in the 20th Century (3)
Twentieth-century developments in the Union (Republic) of South Africa, Central Africa (the Rhodesias and Nyasaland) and the Portuguese colonies; the political, economic and social ramifications of race relations.

462A History of China (3)
Chinese history from ancient times to the middle of the 17th century; society, thought, economy and political institutions.

462B History of China (3)
Chinese history from the middle of the 17th century to the 1950s. China's internal developments and foreign intrusion, the rise of modern Chinese nationalism and intellectual developments in the Republican period, and the attempts at modernization and the triumph of communism.

462C China Since 1949 (3)
History of China from 1949 to the present. The Communist Party, political institutions, ideology, economic modernization and foreign relations of China.

463A History of Japan (3)
The social, political, and economic history of Japan until 1868 stressing the Tokugawa era.

463B History of Japan (3)
The rise of the modern Japanese state, Japanese imperialism and the postwar era.

464A History of Southeast Asia, 1850–1945 (3)
Southeast Asia under the impact of the imperialism and the effects of the Pacific War on the European empires.

464B History of Contemporary Southeast Asia (3)
Southeast Asia since the Pacific War to the present. The problems of the area and American involvement in Southeast Asia.

465A History of India (3)
Survey of the history of India from ancient times through the arrival of Islam to the decline of the Mughul Empire in 18th century. Political developments, social and religious institutions: Hinduism, Buddhism, Jainism, class, caste; early impact of Europeans.

465B History of India (3)
India from early activities of British in 18th century through Indian Independence 1948. Political, economic, religious developments: crystallization of British supremacy in South Asia through the Indian Mutiny of 1857; India's struggle for independence; emergence of Gandhi and Nehru.

466A Islamic Civilization: Arab Era (3)
Arab predominance in the Middle East from the rise of Islam to the Mongol invasions of the 13th century.

466B Islamic Civilization: Imperial Age (3)
The Mongol invasions of the Middle East and their effects. The Ottoman Turkish, Safavid Persian and Moghul Empires down to A.D. 1800.

467 The Middle East in the 19th Century (3)
Western penetration of the Middle East and the reaction to it, modernization, the growth of nationalist movements and revolutionary disturbances ending with World War I.

468 Middle East in the 20th Century (3)
Social, political and economic changes in the Middle East since World War I. The period after World War II and recent independence movements.

470 American Colonial Civilization (3)
Prerequisite: History 170A or 180 or consent of instructor. Analyzes the creation and development of societies in English North America from 1492–1754; the emergence of economic, social and political patterns and structures in a maturing Anglo-American culture.

471 The United States from Colony to Nation (3)
Prerequisite: History 170A or 180 or consent of instructor. Social, economic, political and intellectual developments in late 18th-century America, the coming of American Revolution, origins of American nationalism, social structure of the new nation, and formation and ratification of the Constitution.

472 Jeffersonian Themes in American Society, 1800–1861 (3)
Prerequisite: History 170A or consent of instructor. Jeffersonian values and their impact upon the social, political and cultural life of the nation.

473 Democracy on Trial 1845–1877 (3)
Prerequisite: History 170A or consent of instructor. America's "great national crisis" and the impact of slavery, civil war and national reconstruction upon the democratic process of the republic.

474 The United States 1876–1914 (3)
American industry and its impact upon American life. The populist and progressive reform movements.

475 America Comes of Age, 1914–1945 (3)
Major trends in U.S. domestic policy, foreign policy, economy and society from World War I through World War II. Conflicting values and ideals of domestic policy and U.S. role in world affairs.

476 United States Since 1945 (3)
U.S. History from 1945 to the present; the interrelationship of foreign policy, economic prosperity, domestic tensions and protest movements.

478 The History of Orange County (3)
The history of Orange County. Stress on the process of urbanization.

479 The Urbanization of American Life (3)
Urban life in America; the colonial town, the western town and the industrial city.

480 Development of American Law (3)
Prerequisite: History 170A or 170B. American law; contracts, property, commercial law, criminal law, corporations, torts, civil procedure and the legal profession.

481 Westward Movement in the United States (3)
The expansion of the United States population and sovereignty from the eastern seaboard to the Pacific, colonial times to 1900; regional development during the frontier period.

483 American Religious History (3)
Prerequisite: upper division standing. American religious life and the proliferation of religious organizations as the result of the transplanting of European Christianity in the new environment.

484 American Legal and Constitutional History
Examination of legal and constitutional issues affecting the development of the U.S. Constitution, American law and government. The course will survey developments from English and colonial legal origins to constitutional problems of the post-World War II era.

485A United States Foreign Relations to 1900 (3)
The foreign relations of the United States from the beginning of the nation until 1900. Bases of policy, major policies and relationships between domestic affairs and foreign policy.

485B United States Foreign Relations from 1900 (3)
Relations from 1900 to the present. The United States as a world power in the 20th-century; the search for world order and the diplomacy of the atomic age.

486 United States Cultural History (3)
The social and intellectual development of the United States from the Civil War to the present.

487 History of American Parties and Politics (3)
Development of American political parties and issues from 1787 to the present. Analyzes the evolution and change in American political parties and the recent impact of mass media upon them.

488 Black American Since 1890 (3)
Black Americans from Booker T. Washington to present; their culture and role in American life and the issues involved in their relations with other segments of the population in various regions.

490 Senior Research Seminar (3)
Directed research seminar with class discussions applied to specific topics and areas as schedule and staff allow. Original research and writing. Required of all history majors. Various topics may be repeated for credit.

492 Community History (3)
Historical development communities in general including the Orange County area. Techniques of gathering and processing local historical data, including oral interviews and other archival materials.

493A Oral History (3)
The utilization of tape recorded interviews to document significant events in 20th-century history. Training will be given in interviewing techniques, specific background research and equipment use, after which students conduct a number of tape recorded interviews.

498 History Internship (3)
The internship program offers work experience related to the history academic program or to areas of public and private employment where any liberal arts major is appropriate.

499 Independent Study (1-3)
Open to advanced students in history with consent of department chair. May be repeated for credit.

502 History and Historians (3)
Prerequisite: consent of instructor. Seminar in historical criticism where students examine modern historians for their methods and methodologies, their abilities to enlarge conceptions of history, and for the manner in which the historical profession receives new knowledge and methods.

503 Theory and History (3)
Prerequisite: History 502 or consent of instructor. Seminar introducing student to philosophical issues in history as a humanistic social science, to epistemological considerations of the relationship of history to other disciplines, and to new subdisciplines in history. Required for the M.A.

504 Historical Research (3)
Prerequisites: History 502, 503 or consent of instructor. Theory applied to particular historical topics. Students will develop theoretical and analytical frameworks that are effective in explaining the historical problem under consideration. Seminar required for the M.A.

520 Seminar in European History (3)
Prerequisite: consent of instructor.

570 Seminar in American History (3)
Prerequisite: consent of instructor.

597 History Project (3 or 6)
The editing of a significant body of primary source materials, including a critical and interpretive introduction as well as appropriate reference and explanatory notes. Foreign sources will normally be translated into English.

598 Thesis (3 or 6)
Prerequisite: consent of instructor. May be repeated for credit.

599 Independent Graduate Research (1–3)
Open to graduate students in history with consent of department chair. May be repeated for credit.

LATIN AMERICAN STUDIES PROGRAM

FACULTY
William Ketteringham
Program Coordinator
PROGRAM COUNCIL
Oswaldo Arana (Foreign Languages), Nancy Baden (Foreign Languages), Warren Beck (History), Isaac Cardenas (Chicano Studies), James Dietz (Economics), Dagobert Fuentes (Chicano Studies), Ron Harmon (Foreign Languages), Pierre Hostettler (Management), Arturo Jasso (Foreign Languages), Leroy Joesink-Mandeville (Anthropology), Carolyn Johnson (Communications), Paul Kane (Education), William Ketteringham (Geography), Jackie Kiraithe (Foreign Languages), John Lafky (Economics), Neil Maloney (Earth Science), Sheldon Maram (History), Lon McClanahan (Biological Science), Michael Mend (Sociology), Adolfo Ortega (Chicano Studies), Ervie Peña (Foreign Languages), Joseph Platt (Chicano Studies), Ivan Richardson (Political Science), Marlene de Rios (Anthropology), Gerald Rosen (Sociology), Jon Yinger (Political Science)

BACHELOR OF ARTS IN LATIN AMERICAN STUDIES

The Latin American studies program is for students desiring a general education with focus on Latin America, careers which will involve residence in, or a knowledge of Latin America (such as teaching, business, government, scientific research, engineering, or journalism), for teaching Spanish or the social sciences in the secondary schools, or for graduate work in Latin American studies or other disciplines involving a specialization in Latin America.

Teachers

The Latin American studies program has been approved for the multiple subject waiver, under provisions of the Ryan Act.

Foundation Courses

All students should develop a language proficiency level which is the equivalent of Spanish 204 and Portuguese 102.

Students with no language background should take:

Spanish 101 Fundamental Spanish—A (5)
Spanish 102 Fundamental Spanish—B (5)
Spanish 203 Intermediate Spanish—A (3)
Spanish 204 Intermediate Spanish—B (3)
Portuguese 101 Fundamental Portuguese—A (4)
Portuguese 102 Fundamental Portuguese—B (4)

However, a student with a knowledge of Spanish and/or Portuguese may be able to meet part or all of the foundation course requirements by taking a test administered by the Department of Foreign Languages and Literatures.

Required Fields of Study

Language (3 units):

Spanish 317 Advanced Conversation and Composition *or* 318 Advanced Spanish Syntax and Composition (3) (318 is designed for bilingual students) *or either*
Portuguese 317 *or* 318 Advanced Conversation and Composition (3)

History and Culture (9 units):

Spanish 316 Introduction to Spanish American Civilization (3) *or*
Portuguese 325 Contemporary Brazilian Civilization (3)
History 350 History of Latin American Civilization (3) *and* three additional units in upper-division Latin American history

Social Science (6 units) selected from two departments:

Anthropology 322 Peoples of Mesoamerica (3)
Anthropology 324A The Ancient Maya (3)
Anthropology 324B The Aztecs and Their Predecessors (3)
Anthropology 325 Peoples of South America (3)
Anthropology 326 Archeology of South America (3)
Economics 333 Economic Development: Analyses and Case Studies (3)
Geography 333 Latin America (3)
Political Science 430 * Government and Politics of a Selected Nation-State
Political Science 431 * Government and Politics of a Selected Area
Political Science 452 * Foreign Policy of a Selected Country or Group of Countries

Elective Fields of Study

Twelve units selected from three or more of the following groupings:

I. Culture:

Anthropology 322 Peoples of Mesoamerica (3)
Anthropology 324A The Ancient Maya (3)
Anthropology 324B The Aztecs and Their Predecessors (3)
Anthropology 325 Peoples of South America (3)
Anthropology 326 Archaeology of South America (3)
Chicano Studies 302 Ancient Mexican Culture (3)
Chicano Studies 403 Cultural Differences in Mexico and the Southwest (3)
Portuguese 315 Introduction to Luso Brazilian Culture and Civilization (3)
Portuguese 317 *or* 318 Advanced Conversation and Composition (3) *or*
Spanish 317 Advanced Conversation and Composition (3)
Portuguese 325 Contemporary Brazilian Civilization (3) *or*
Spanish 316 Introduction to Spanish American Civilization (3)
Spanish 416 Contemporary Spanish-American Culture (3)

II. Fine Arts and Literature:

Art 460B Pre-Columbian Art (3)
Chicano Studies 430 The Evolution of Mexican Literature (3)
Chicano Studies 433 Mexican Literature Since 1940 (3)
Portuguese 441 Brazilian Literature (3) *or*

* Latin American focus only

Spanish 441 Spanish American Literature (3)
Spanish 466 Introduction to Spanish Linguistics (3)
Spanish 485 Senior Seminar: Topics in Spanish American Literature (3) (with consent of program director)

III. History and Politics:
History 453A Mexico to 1910 (3)
History 453B Mexico since 1910 (3)
Political Science 430 * Government and Politics of a Selected Nation-State
Political Science 431 * Government and Politics of a Selected Area
Political Science 452 * Foreign Policy of a Selected Country or Group of Countries

IV. Geography and Economics
Economics 333 Economic Development: Analyses and Case Studies (3)
Geography 333 Latin America (3)

MINOR

A minor in Latin American studies is currently being developed. Students should consult the program office for information.

LIBERAL STUDIES PROGRAM

FACULTY
Ronald Clapper
Program Coordinator

PROGRAM COUNCIL
Susan Benes (Student), Fredrick Borges (Student), Fenton Calhoun (Communications), Gaylen Carlson (Science Education), Ronald Clapper (Chair), Carol Copp (Sociology), David Depew (Philosophy), Gerald Gannon (Mathematics), Suzanne Hale (Student), Linda Harris (Student), Ronald Hughes (Sociology), Joy Kost (Student), Emmett Long (Speech Communication), Don A. Schweitzer (School of Humanities and Social Sciences), Vera Simone (Political Science), James Weaver (American Studies), Ronald Wood (Theatre), James Woodward (History)

BACHELOR OF ARTS IN LIBERAL STUDIES

The B.A. in Liberal Studies is a diversified or liberal arts degree for students who do not wish to specialize in one academic discipline. Liberal studies majors may take either of the following plans:

I. Elementary Education Plan (84 units)

Students who complete the elementary education plan can be granted the multiple subjects (elementary) credential without having to take the state examination otherwise required by the Ryan Act. The 84 units required under this plan are distributed evenly in four major areas.

A. English Requirements (21 units)
1. Speech Communication 305 Liberal Studies in Communication Processes (3)
2. English 301 Advanced College Writing †
3. English 303 Structure of Modern English (3) †
4. World Literature (6) English 110–111 or Comparative Literature 324–325 †
5. Elective in communications, comparative literature, English, linguistics or speech communication (6 units)

B. Science and Mathematics Requirements (21 units)
1. Nine units of general education courses in the natural sciences
2. Liberal Studies 307 Liberal Studies in the Sciences (3)
3. Mathematics 303A,B Fundamental Concepts of Elementary Mathematics (3, 3) †
4. Science Education 310 Elementary Experimental Science (3) † *or*
   Science Education 453 Life Science Concepts (3) †

C. Social Sciences Requirements (21 units)
1. Nine units of general education courses in the Social Sciences
2. History 303A,B Historical Dimension of Liberal Studies (3,3)

---

* Latin American focus only
† In exceptional cases substitutions may be made with the approval of the program coordinator and the department concerned.

3. Liberal Studies 308 Liberal Studies in the Social Sciences (3)
4. Upper-division electives in Afro-ethnic studies, American studies, anthropology, Chicano studies, criminal justice, economics, geography, history, political science, psychology or sociology (3 units).

D. Humanities and Fine Arts Requirements (21 units)

1. Nine units of general education courses in arts-humanities including a foreign language
2. Philosophy 304 Methods of Inquiry (3)
3. Liberal Studies 306 Liberal Studies in the Humanities and Arts (3)
4. Upper-division electives in art or music (3 units)
5. Upper-division electives in Afro-ethnic studies, American studies, Chicano studies, foreign languages and literatures, philosophy, religious studies or theatre (3 units)

Note: The Elementary Education Plan does not include all requirements in general education and American institutions and values. The complete requirements are listed in this catalog under graduation requirements for the bachelor's degree.

II. Thematic Plan (51 units)

The thematic plan allows students to synthesize and integrate their knowledge and experience by focusing on a theme that is broad in scope and cuts across the traditional lines of the academic disciplines. The 51 units required are distributed in three major phases: the liberal studies core courses, the personalized coordinated program and the senior project.

A. The Liberal Studies Core Courses (21 units)

The liberal studies core courses build a foundation for interdisciplinary study by providing an overview of the major areas of human knowledge and an introduction to the basic methodologies of interdisciplinary study. The following courses are required:

1. History 303A,B Historical Dimension of Liberal Studies (3–3)
2. Philosophy 304 Methods of Inquiry (3)
3. Speech Communication 305 Liberal Studies in Communication Processes (3)
4. Liberal Studies 306 Liberal Studies in Humanities and Arts (3)
5. Liberal Studies 307 Liberal Studies in the Sciences (3)
6. Liberal Studies 308 Liberal Studies in the Social Sciences (3)

B. The Personalized Coordinated Program (24 units)

Students apply the basic methodologies learned in the core courses by selecting, in consultation with an adviser, a theme and 24 units of upper-division course work. Upper-division course work may be selected from *each of the three* major areas of human knowledge (humanities and arts, science, and social sciences.) A minimum of six units of course work must be chosen from each area. Or upper-division course work may be selected from *two of the three* areas of human knowledge. Not more than 15 units may be chosen from one area and not more than nine units from one department.

Note: Students must have their study plan approved by a liberal studies adviser prior to taking course work.

C. The Senior Project (6 units)

Students apply some of the knowledge obtained from courses taken in the personalized coordinated program by writing a thesis or engaging in a project or creative work under the direction of an instructor of the student's choice.

English 301 Advanced College Writing (3)
___ 499 Independent Study (3)
Directed by an instructor chosen by the student. Student will enroll in the home department of the instructor.

INTERNSHIP

Liberal studies majors may take up to three units of an approved internship offered by any department or program in the university as part of their liberal studies major.

ADVISEMENT

Students are urged to see a program adviser prior to their first semester at the university as a liberal studies major. A handbook describing the liberal studies program in more detail is available from the Cross-Disciplinary Programs office.

LIBERAL STUDIES COURSES

306 Liberal Studies in the Humanities and Arts (3)
Prerequisite: completion of arts-humanities general education requirement. An interdisciplinary approach to the humanities and arts which examines their purposes, structures, and major developments in this century.

307 Liberal Studies in the Sciences (3)
Prerequisite: completion of natural sciences general education requirement. The nature of the scientific enterprise, contemporary models in physical and biological sciences; and the role of science in society.

308 Liberal Studies in the Social Sciences (3)
Prerequisite: completion of social sciences general education requirement. The theoretical frameworks of the social sciences and their methodologies and strategies for formulating and answering social questions.

DEPARTMENT OF LINGUISTICS

FACULTY
Donald Sears
Department Chair

Angela Della-Volpe Farrell, Alan Kaye, James Santucci

Linguistics is the scientific study of language—its nature and development, its universal properties, its diversified structures and their variants, its systems of writing and transcription, its cultural role in the speech community, and its application to other areas of human knowledge. As such, it is concerned with the multiple aspects of human communicative behavior which encompasses thought, symbolization, language, meaning, acoustics, perception and the physiological processes of utterance and audition.

The interdisciplinary aspects of this study are reflected in the organization of the program which offers a core of general linguistics courses and draws upon linguistically related courses in other departments.

BACHELOR OF ARTS IN LINGUISTICS

For students with an exceptional interest in and aptitude for the study of the systems of human communication. The essential relationships between language and thought and language and culture; the structure of foreign languages as well as English; the historical study of language and formal techniques and theoretical foundations of linguistic analysis.

Language Requirement

Two progressive semesters of any two languages or four progressive semesters of any one language.

Lower-Division Requirements ..... 6 units
Linguistics 106 Language and Linguistics (3)
Any *one* 200-level linguistics course (3)

Upper-Division Requirements ..... 27 units
Linguistics 300 Language and Culture (3)
Linguistics 351 Introduction to Linguistic Phonetics and Phonology (3)
Linguistics 406 Descriptive Linguistics (3)
Linguistics 430 Historical Linguistics (3)
Any one 300- or 400-level linguistics course (3)

Four electives: (1) two must be from linguistics upper-division courses other than those listed as required above; and (2) two may be in linguistics upper-division courses or
Education-TE 312 Human Growth and Development (3)
English 303 The Structure of Modern English (3)
English 490 History of the English Language (3)
Foreign Languages, any upper division course (3)
Mathematics 304 Mathematical Logic (3)
Mathematics 305 Elements of Set Theory (3)
Philosophy 368 First Course in Symbolic Logic (3)
Physics 405 Acoustics (4)
Psychology 415 Cognitive Processes (3)

Students must consult with an adviser in linguistics before establishing their individual programs of study. Other courses in the university may be taken as an elective with the permission of the adviser.

MASTER OF ARTS IN LINGUISTICS

See "Graduate Programs."

MINOR IN LINGUISTICS

The minor in linguistics provides a solid introduction to the scientific study of language for students in a related major field. The program consists of three general linguistics courses and four elective courses selected with the approval of a departmental adviser. It is thus possible to tailor the minor to individual needs in rounding out a course of study in the student's major area of specialization. For more information contact the department office.

LABORATORY OF PHONETIC RESEARCH

See Research Organizations and Services and Special Study Centers.

LINGUISTICS COURSES

105A English as a Second Language (4)
(Same as Foreign Language Education 105A)

105B English as a Second Language (4)
(Same as Foreign Language Education 105B)

106 Language and Linguistics (3)
The nature of language, its origin and development; language in culture, the structure of language and its systems of writing and transcription, and its application to other areas of humanistic and scientific knowledge.

108 Linguistics and Minority Dialects (3)
The sounds, meanings and vocabulary of Afro-American, Caribbean, and other English dialects and their historical origin. (Same as Afro-Ethnic Studies 108)

251 Animal Language and Communication (3)
Animal linguistic behavior in comparison with human speech and its derivatives, and an exploration of experiments concerned with dolphins, chimps, and other species.

254 Introduction to Paralanguage and Kinesics: Body Language (3)
The physical actions, gestures, and changes in the physiognomy that occur together with language and paralanguage in human communication; substitutions for language and modifications of it in varying cultures.

300 Language and Culture (3)
(Same as Anthropology 300)

301 Sanskrit (3)
An introduction into the *devanagari* script as well as the phonology, morphology and syntax of the Sanskrit language. A reading knowledge of Sanskrit will be the main goal of the course. (Same as Religious Studies 301)

305 The English Language in America (3)
(Same as English 305)

351 Introduction to Linguistic Phonetics and Phonology (3)
The nature and structure of sound systems in language; a thorough investigation of the International Phonetics Alphabet as applied to many different languages including English; analytic methods and techniques.

354 Linguistics and Literature (3)
Prerequisite: a course in linguistics or English linguistics. Language as the medium of literature; the new stylistics, including theories of word choice, prosody, prose style, structure, statistical analysis, metaphor. Application to various literary forms. (Same as English 354)

375 Introduction to Philosophy of Language (3)
(Same as Philosophy 375)

402 Advanced Phonetics (3)
(Same as Speech Communication 402)

403 Speech/Language Development (3)
(Same as Speech Communication 403)

406 Descriptive Linguistics (3)
A study of the sounds (phonology), forms and meanings (morphology), and syntax of languages. Examples and problem solving in various languages will be emphasized. (Same as Anthropology 406)

411 Bilingualism (3)
Prerequisite: Linguistics 406 or equivalent. The personal and social development of bilingual communities as reflected in the conflict between the language of the home and the language of the community.

412 Sociolinguistics (3)
Prerequisite: Linguistics 406 or equivalent. Social dialects in relation to the surrounding communities. Social stratification, acculturation, language maintenance, standardization, language planning and language change.

416 Anthropological Linguistics (3)
(Same as Anthropology 416)

417 Psycholinguistics (3)
(Same as Psychology 417)

430 Historical Linguistics (3)
Prerequisite: Linguistics 406, its equivalent, or consent of instructor. The comparative method in diachronic linguistic methodology and theory, graphemics, glottochronology, language families, dialect geography and internal reconstruction. Fulfills the course requirement of the university upper division baccalaureate writing requirement for linguistics majors.

443A Principles of Teaching English to Speakers of Other Languages (3)
(Same as Foreign Language Education 443A)

443B Principles of Teaching English to Speakers of Other Languages (3)
(Same as Foreign Language Education 443B)

499 Independent Study (1–3)
Supervised projects with consent of department chair. Topic varies with the student. May be repeated for credit.

501 Research Methods and Bibliography (1)
Prerequisites: graduate standing and Linguistics 406, or equivalent. Principal books, periodicals, and collections in general linguistics, specific languages and related fields; techniques of preparing research papers and field reports in linguistics. To be taken concurrently with Linguistics 597.

505 Phonological Analysis (3)
Prerequisites: Linguistics 351 and 406 or consent of instructor. Phonological systems that occur in languages; emphasis on terminology used to describe changes in the system and processes effecting it; problem solving of selected language data. (Same as Anthropology 505)

507 Grammatical Analysis (3)
Prerequisite: Linguistics 406 or consent of instructor. Word formation in a variety of languages with emphasis on the terminology used to describe morphological representation on various levels; problem solving of selected language data. (Same as Anthropology 507)

508 Theories of Syntax (3)
Prerequisite: Linguistics 507 or consent of instructor. Contemporary theories of grammar, such as transformational-generative, with emphasis on theoretical problems in the analysis of language structure. (Same as Anthropology 508)

515 Graduate Seminar: Psycholinguistics (3)
Prerequisites: Linguistics 406 and 417 or equivalents. The behavioral, conceptual, motivational and social aspects of language; recent developments in information theory, behavioral theory and linguistic theory as applied to human communication. (Same as Psychology 515)

530 Graduate Seminar: Historical Linguistics (3)
Prerequisite: Linguistics 430, its equivalent or consent of instructor. The history of language, including principles and techniques for the historical study and classification of individual languages and language families, writing systems, lexicostatistical methods and linguistic geography.

580 Special Topics in Linguistics (3)
Seminar devoted to a topic in contemporary linguistics: linguistic typology; a major language family; areal linguistics; language and the computer. Topic will be circulated in advance of registration. May be repeated for credit. (Same as English 580)

592 Field Methods in Linguistics (3)
Prerequisite: consent of instructor. Methods of analysis and description of language structures. Data elicited from informants will be analyzed and described. (Same as Anthropology 592) May be repeated for credit.

596 Internship in Applied Linguistics (3)
Prerequisite: Linguistics 443 or consent of instructor. The practical application of linguistic theory to second language learning, particularly at the community college level. Individual supervision by the faculty and cooperating individuals. Interns meet with the instructor by arrangement. May be repeated for credit.

597 Project (2)
Preparation and completion of an approved project. To be taken concurrently with Linguistics 501.

599 Independent Graduate Research (1–3)
Prerequisites: graduate standing and consent of department chair. May be repeated for credit.

DEPARTMENT OF PHILOSOPHY

FACULTY

Craig Ihara
Department Chair

John Cronquist, David Depew, Albert Flores, Merrill Ring, Gloria Rock, J. Michael Russell, Betty Safford, Richard Smith, Frank Verges, Marjorie Weinzweig

BACHELOR OF ARTS IN PHILOSOPHY

A major in philosophy provides a classic form of liberal education in which powers of reasoning and analysis are developed. The study of philosophy includes (1) the development of general analytic and problem-solving skills, (2) the investigation of problems central to philosophy, (3) the assessment of assumptions underlying other fields, and (4) a fundamental perspective on intellectual history.

Requirements for the Major

1. A minimum of 39 units in philosophy.
2. University upper-division writing requirement
   Philosophy 315 (3)
3. *Required courses* (15 units):
   Philosophy 290 (3)
   Philosophy 291 (3)
   Philosophy 300 (3)
   Philosophy 301 (3)
   Philosophy 499 (3)
4. *History of contemporary philosophy requirement:* Three units to be met by one of the following courses: 305, 323, 380, 382, 490.
5. *Area requirements:* Nine units (three courses) to include courses from at least two of the following areas:
   Area I—Ethics, Aesthetics, Value Theory: 310, 311, 345, 365, 455.
   Area II—Metaphysics and Epistemology: 420, 425, 430, 440, 470
   Area III—Logic and Language: 368, 369, 375, 460
   Area IV—Philosophy of the Natural and Social Sciences: 303, 341, 360, 384, 385, 386
6. *Seminar requirement:* Three units to be met by any senior seminar not used to fulfill area or history of philosophy requirements. (Senior seminars in philosophy are numbered between 447 and 490.)
7. *Electives:* 6 units of philosophy courses, upper- or lower-division, which have not been used to meet requirements 3–6, above.

Recommended Work

A program in philosophy profits greatly from the study of psychology, the natural and social sciences, and literature. Students are advised to supplement their studies in philosophy with course work offered in these and other fields. Double majors are encouraged.

Preparation for Graduate School

Students who are planning to attend graduate school in philosophy are urged to acquire proficiency in a foreign language, and to include in their programs, besides the required courses, as many as possible of the following:

Philosophy 310 and 455, Ethics
Philosophy 368 and 369, Logic
Philosophy 375, Philosophy of Language
Philosophy 380, Analytic Philosophy
Philosophy 420, Metaphysics
Philosophy 430, Epistemology
Philosophy 440, Philosophy of Mind

Transfer Credit

Work done at other institutions may be counted toward the major, subject to the rules of the university and the following departmental rules: (1) only senior seminars can fulfill the seminar requirement; (2) only upper-division work can fulfill upper-division requirements; (3) *in no case can more than six units of lower-division work taken at another institution count toward the major requirement of 39 units.*

MINOR IN PHILOSOPHY

Requirements for the Minor

The minor in philosophy requires 21 units in philosophy, at least 12 of which must be upper-division. It may be satisfied in two ways:

1. Among the 21 units, at least six units from among these courses: 115A, 115B, 290, 291, 300, 301, 305;
   and either a senior seminar or else 3 units of Philosophy 499.
2. Among the 21 units, at least 15 units chosen from among philosophy courses correlative to the student's major.

In either case a student's plan for the minor must be approved by the Philosophy Department adviser.

PHILOSOPHY COURSES

For more detailed course descriptions, consult the course guide which is available each semester at registration time in the Philosophy Department office.

100 Introduction to Philosophy (3)
The nature, methods and some of the main problems of philosophy. Primarily for freshmen and sophomores. Not a prerequisite for advanced courses.

110 Comparative Study of the World's Great Religions (3)
A philosophical study of some of the world's important religions: Christianity, Judaism, Islam, Buddhism, Hinduism, et cetera. (Same as Religious Studies 110)

115A The Western Tradition: Philosophy (3)
Major developments in the philosophical heritage of Western civilitzation to the 16th century.

115B The Western Tradition: Philosophy (3)
Major developments in Western civilization's philosophical heritage from 16th/17th centuries to the present.

200 Argument and Reasoning (3)
Development of non-mathematical critical reasoning skills, including recognition of arguments, argument evaluation and construction of arguments.

210 Logic (3)
The logical structure of language and correct reasoning: deduction, induction, scientific reasoning, informal fallacies. Recommended for students majoring in humanities and social sciences. (Linguistics, mathematics, philosophy, or science majors should usually take Philosophy 368.)

290 History of Philosophy: Greek Philosophy (3)
The origins of Western philosophy, and its development through Socrates, Plato and Aristotle.

291 History of Philosophy: Medieval Philosophy (3)
Scholastic philosophy and its precursors in ancient thought.

300 History of Philosophy: Rationalism and Empiricism (3)
The rationalism of Descartes, Spinoza and Leibniz, and the empiricism of Locke, Berkeley and Hume.

301 History of Philosophy: Kant and the 19th Century (3)
The empiricistic and rationalistic influences on Kant, followed by a study of the major trends in 19th-century philosophy.

303 Introduction to the Philosophy of Science (3)
Logical and methodological features of scientific inquiry; nature of theories and theoretical terms; impact of science on social issues and values. (Not a prerequisite for 384 or 385)

304 Methods of Inquiry (3)
An examination of problems and issues, especially philosophical ones, which arise in interdisciplinary inquiry.

305 Contemporary Philosophy (3)
Main trends of 20th-century philosophy: pragmatism, linguistic analysis and existentialism.

310 Ethics (3)
Problems of human conduct and moral evaluation: standards for moral assessment of conduct and persons; morality and its relation to mores, social demands, and personal commitments.

311 Aesthetics (3)
The conditions and aims of art and of aesthetic experience.

312 Moral Issues in Business (3)
An analysis of moral issues in business, such as those related to advertising, the environment, product safety, employee responsibilities and the nature and basis of business. (This course will not emphasize business law, nor one's obligations according to law.)

314 Medical Ethics (3)
An examination of ethical issues raised by recent technical developments in medicine, and of ethical, social and political issues involved in the physician-patient relationship and the delivery of health care.

315 Philosophical Argument and Writing (3)
Prerequisite: three units of philosophy. Philosophical concepts, distinctions and methods are used to teach philosophical and argumentative writing which is clear, critical, expressive and precise. This course is designed to satisfy the classroom portion of the upper-division writing requirement for philosophy majors.

323 Existentialism (3)
Introduction to existentialist perspectives on freedom, meaning, responsibility, authenticity and self-deception. The course typically includes discussion of Kierkegaard, Nietzsche, Heidegger and Sartre

324 Existential Group (3)
Prerequisite: consent of the instructor. An investigation of how themes in the writings of existentialist philosophers pertain to the life styles, actions, and feelings of the class participants.

341 Assumptions of Psychotherapy (3)
Philosophical concepts and assumptions pertinent to the theory of psychotherapy, such as the Cartesian, the mechanistic and the deterministic assumptions of Freud.

343 Philosophy and Women's Liberation (3)
The basic value concepts and moral principles underlying such issues in the women's movement as: oppression of women, marriage as exploitation, sex stereotypes and femininity, sexuality, alternative family styles, the morality of abortion, and preferential hiring.

345 Political Philosophy (3)
Discussion of such topics as: the nature and purpose of the state, political authority, civil disobedience, natural law, and natural rights, usually in relation to such thinkers as Hobbes, Locke, Rousseau and Marx. (Not the same as Political Science 340)

347 Selected Problems in Philosophy (1–3)
Examination and clarification of some philosophical topic or group of related topics not adequately covered in other listed philosophy courses. May be repeated with different content for additional credit.

350 Oriental Philosophy (3)
Major philosophical systems of India, China and Japan, including various schools of Buddhism, Confucianism and Taoism.

355 Legal Philosophy (3)
Theories about the nature of various legal institutions and processes. The concept of law and important subsidiary concepts.

360 Philosophy of History (3)
Conceptual problems about historical inquiry, argument and writing. Assessment of traditional speculative philosophy of history in the light of these problems.

365 Social Philosophy (3)
Theories about the nature of various social, political and legal institutions, and arguments about what these institutions ought to be.

368 First Course in Symbolic Logic (3)
The recognition and construction of correct deductions in the sentential logic and the first-order predicate calculus. (Same as Math 368)

369 Second Course in Symbolic Logic (3)
Prerequisite: Philosophy 368 or Math 368. Continuation of the study of the recognition and construction of correct deductions in the full first-order predicate calculus with identity and the calculus of descriptions. Axiomatized deductive systems of propositional calculus. (Same as Math 369)

370 Philosophy of Religion (3)
The role of philosophy in shaping theological doctrine, in critically evaluating religious experience, in arguing for or against the existence of God, and in considering the problem of evil.

373 Philosophy in Literature (3)
Philosophical themes in literature. Mostly recent American novels; some British and continental authors.

375 Introduction to the Philosophy of Language (3)
The major issues in semantic theory: truth, meaning, analytic-synthetic, semiotics. (Same as Linguistics 375)

380 Analytic Philosophy (3)
Prerequisite: six units in philosophy or consent of instructor. 20th-century analytic philosophers such as Russell, Moore, Wittgenstein, Ryle, Austin, Quine, Strawson, and Hare.

382 Marx and Marxism (3)
Marx and his followers in their philosophic aspect. Theories of human nature, society and intellectual activity; conceptual tools for the analysis of phenomena; sources; and followers, critical or dogmatic.

384 Philosophy of the Physical Sciences (3)
Space, time and relativity; quantum mechanics, causality and real existence; laws, theories and models; topics in the history of science. Some facility in either mathematics or philosophy is presupposed. (Same as Physics 384)

385 Philosophy of the Social Sciences (3)
Methodological problems about psychology, sociology, anthropology, economics, political science and history. Objectivity and value judgments in social science; emergence; explanation; reductionist and functionalist accounts. Some acquaintance with the social sciences is presupposed. (Same as Social Sciences 385)

386 Philosophy of Biology (3)
Prerequisite: completion of general education requirements in science. Examination of the conceptual foundations of biological science. Applicability of concepts such as law, theory reduction, emergence and teleology to investigation of living things from the molecular to the environmental level.

399 Directed Study (1–3)
Prerequisite: approval of department. Supervised individual study as an elective. May be repeated for credit with different content. No more than three units may be taken with any one adviser in any one semester.

420 Metaphysics (3)
Prerequisite: six units in philosophy or consent of instructor. Such philosophical problems as freedom and determinism, mind and body, time and becoming, causation, deity, substratum, personal identity.

425 Introduction to Phenomenology (3)
Prerequisite: six units in philosophy or consent of instructor. The historical background and basic viewpoints which have provided a framework for philosophical research and study in the writings of Husserl, Heidegger, Sartre, and Merleau-Ponty.

430 Epistemology (3)
Prerequisite: six units in philosophy or consent of instructor. The nature of knowledge, belief, certainty, truth, perception, and the *a priori*; examinations of skepticism, traditional responses to skepticism, and the foundations of knowledge.

440 Philosophy of Mind (3)
Prerequisite: six units in philosophy or consent of instructor. The concept of mind, and such related issues as the mind-body relation, behavior, consciousness, voluntary action, weakness of will, and our knowledge of other minds.

447 Seminar in Selected Problems (3)
Prerequisite: six units in philosophy or consent of instructor. Intensive study of one philosophical concern, such as an individual philosopher or topic. May be repeated with different content for additional credit.

455 Seminar in Values (3)
Prerequisite: Philosophy 310 or 311, or consent of instructor. Valuation or some important form of value: ethical, aesthetic, political. May be repeated with different content for additional credit.

460 Seminar in Logic and Language (3)
Prerequisite: appropriate course from among Philosophy 368, 369, 375. Topics in advanced logic, theory of meaning and formal semantics, foundations of logic and mathematics. May be repeated with different content for additional credit.

470 Seminar in Metaphysics (3)
Prerequisite: Philosophy 420 or 430 or 440, or consent of instructor. Some single concept, such as identity, person, time, causality, substance, understanding, reality; or some cluster of issues, such as thought and reality, freedom and determinism. May be repeated with different content for additional credit.

480 Seminar in the History of Philosophy (3)
Prerequisite: an appropriate course from among 290, 291, 300, 301, or consent of instructor. Some important work, figure, school, or problem in the history of philosophy before 1900. May be repeated with different content for additional credit.

490 Seminar in Contemporary Philosophy (3)
Prerequisite: appropriate course work or consent of Instructor. Issues raised by such 20th-century philosophers as Russell, Moore, Wittgenstein, Austin, Quine, Husserl, Heidegger, Sartre, Merleau-Ponty or Foucault. May be repeated with different content for additional credit.

499 Independent Study (1–3)
Prerequisite: approval of department. To develop competency in research. May be repeated for credit. No more than three units may be taken with any one adviser in any one semester.

DEPARTMENT OF POLITICAL SCIENCE

FACULTY
Julian Foster
Department Chair
Sidney Baldwin, Charles Bell, Virginia Bott, Keith Boyum, Michael Brown, Vincent Buck, Bert Buzan, Anne Feraru, Phillip Gianos, Harvey Grody, Gary Guertner, Karl Kahrs, Frank Marini,* Alana Northrop, James Pfiffner, Ivan Richardson, Karen Rosenblum-Cale, Alan Saltzstein, Vera Simone, Raphael Sonenshein, Barbara Stone, Irving Stone, Sandra Sutphen, Bruce Wright, Jon Yinger

Political science is the study of people's behavior as it relates to power and public organizations. The discipline is normally divided into six subfields:

Political philosophy, which deals with normative questions about how power should be used and distributed, rights and obligations, the nature of justice and the ideal state.

American politics, which is concerned with campaigns and elections, parties, elected executives, legislative processes, and issues of public policy.

Public administration, the role played by the public employees in policy making, planning, personnel management, taxation and finance, and in responding to the needs and problems of communities and the nation.

* University administrative officer

Public law, which involves the judicial process, civil rights and liberties, and the significance of such terms as "equal opportunity" and "due process" in the United States.

Comparative government, which raises the same questions of politics, administration and law about other countries, and moves towards conclusions based on comparisons between them.

International relations, which is concerned with relations between states and other international actors such as multinational corporations and the United Nations; and with the underlying realities of power, based on resources, wealth, military preparedness and national security.

A major in political science prepares students for law school, government employment on the local, state and national levels, foreign service, teaching, business, journalism, or leadership in civic and political activities.

The department offers a concentration in public administration for those who seek careers in public service. The concentration describes the environment within which the profession exists and the concepts and goals which underlie such functions as budgeting, personnel work, policy analysis and management. Experience is gained through the administrative internship.

For prelaw students, the department provides a series of law-related courses numbered in the 370 and 470 series (see course descriptions). There is a prelaw adviser and and active Prelaw Society which enables students to make close and direct contact with the work of attorneys, judges, etc. The department is closely tied to the College Legal Clinic, which provides free legal advice for students and others who cannot afford the usual costs.

BACHELOR OF ARTS IN POLITICAL SCIENCE

Basic Requirements

The major consists of 36 units of political science, of which at least 30 units must be in the upper division, plus 12 upper-division units in related disciplines, such as American studies, anthropology, economics, geography, history, philosophy, psychology, sociology and statistics. Work in related fields must be approved in writing by one of the department's undergraduate advisers. The 48 units required for majors are in addition to those meeting the general education requirement.

Breadth Requirements

Majors, with the exception of those choosing the public administration concentration, are required to take Political Science 340 (Political Philosophy) and an introductory course (as listed below) in four of the five remaining subfields of political science.

Political Science 310	American Political Behavior *or* 315 American Political Process
Political Science 320	Politics, Policy and Administration
Political Science 330	Comparative Political Analysis
Political Science 350	World Politics *or* 352 American Foreign Policy
Political Science 375	Public Law

Those choosing the public administration concentration described below take Political Science 320 and one other course listed above.

Research Methods Requirement

All majors must acquire a knowledge of research methods and approaches *either* by taking Political Science 407, Quantitative Methods in Political Science, *or* by taking one of the research proseminars: Political Science 311, 316, 321, 341, 351 or 376. Those concentrating in public administration must take either 407 or 321.

UPPER-DIVISION BACCALAUREATE WRITING REQUIREMENT:

The university upper-division baccalaureate writing requirement may be satisfied by taking one of the following courses: Political Science 320W, Political Science 340W, Political Science 375W.

Public Administration Concentration

In addition to fulfilling the breadth and research methods requirements in the ways described above, those who wish to concentrate in public administration must take:

1. Nine units from among the following courses on administrative and management processes: Political Science 421, 422, 423, 424, 426, 428, 429, 475 and 497.
2. Six units from among the following courses on policy and administrative analysis: Political Science 418, 420, 427, 455, 456 and 482.
3. Nine units from courses in the general area of the American political process, as approved by the adviser.

A total of 36 units in public administration and political science is required.

Internships

The department offers a variety of interships. Each one involves students in working in an agency or political organization, and in meeting in an on-campus seminar to discuss and analyze their experiences. Internship courses are numbered 298, 491, 492, 497 and 498 (see course descriptions).

Advisers

The department emphasizes proper advisement, and all majors are strongly urged to talk with either the undergraduate, the prelaw or the public administration adviser as soon as possible after entering the program. The adviser helps with study plans, and gives information about subsequent career possibilities, including law and other graduate schools, postbaccalaureate fellowships and scholarships, and job possibilities in local government.

MINOR IN POLITICAL SCIENCE

The minor is composed of 18 units in upper-division political science courses plus Political Science 100.

MINOR IN PUBLIC ADMINISTRATION

The minor is composed of 18 units. Students must take Political Science 320, 12 units selected from the courses on administrative and management processes (defined under the public administration concentration, above) and one additional upper-division political science course.

MINOR IN INTERNATIONAL POLITICS

The minor consists of 21 units, of which 15 must be in political science. At least six units must be taken from: Political Science 350, 352 or 457. The remaining units must be taken from: Political Science 350, 352 or 457, if not already taken to fulfill the six-unit requirement specified above, Communications 426, Economics 330, Economics 335, Geography 367, History 485B, Political Science 351, Political Science 430, Political Science 431, Political Science 451, Political Science 452, Political Science 455, Political Science 456, Political Science 461, Political Science 491. Students who wish to specialize in a specific geographical area are encouraged to investigate the possibility of taking related units in anthropology, economics, foreign languages, geography, history and literature, etc.

MASTER OF ARTS IN POLITICAL SCIENCE
MASTER OF PUBLIC ADMINISTRATION

See "Graduate Programs."

POLITICAL SCIENCE COURSES *

Political Science 100 or its equivalent is the prerequisite for all upper-division political science courses; 300-level courses beginning with 310 may require concurrent enrollment in a research proseminar. See the department bulletin for details not provided in the course descriptions below.

100 American Government (3)
People, their politics, and power; contemporary issues, changing political styles and processes, institutions and underlying values of the American political system. Satisifies state requirements in U.S. Constitution and California state and local government.

200 Introduction to the Study of Politics (3)
Describing and evaluating politics; political science as an academic discipline.

210 Problems in American Government (3)
The role of the federal government regarding pollution, drugs and narcotics (education, law enforcement). The seniority system in Congress; the role of lobbies, etc., using government reports, Congressional hearings, newspapers and journals of opinion.

298 Political Externship (3)
Politics for the nonmajor or beginning political science student. Work in campaigns or in the offices of elected public officials; supervision by faculty and cooperating agency; seminars and individual conferences. May be repeated once.

300 Contemporary Issues in California Government and Politics (3)
The political process in state and local institutions; crisis in the cities, flight to the suburbs, and race relations. Comparisons will be made with other states and their subdivisions. Satisfies state requirement in California state and local government.

---

* Prerequisite may be waived only with consent of instructor.

309 Introduction to Metropolitan Politics (3)
The inner city and suburbia. Political processes: power in the city, the urban-suburban relationship, political fragmentation and the national government in urban areas.

310 American Political Behavior (3)
Political behavior in America. Perspectives examined include those drawn from psychology and biology; the analysis of social structure and politics as rational behavior.

311 Research Proseminar in American Political Behavior (3)
Prerequisite: Political Science 310 (may be taken concurrently). Research concepts and techniques applied to an individual project in American political behavior.

315 American Political Process (3)
The structure, functions and relationships among American national institutions: executive, legislative, judicial, press, political parties and pressure groups—with a focus on the decision-making process.

320 Politics, Policy and Administration (3)
Public administration and the roles played by administrators in the formulation and execution of public policy. May not be taken for credit by the student who has taken Political Science 320W.

320W Politics, Policy and Administration (4)
Same as Political Science 320, with additional writing component designed to satisfy university writing requirement for political science majors and for concentration in public administration. May not be taken for credit by the student who has taken Political Science 320.

321 Research Proseminar in Politics, Policy and Administration (3)
Prerequisite: Political Science 320 (may be taken concurrently). Research concepts and techniques applied to an individual project in public administration and policy analysis.

330 Comparative Political Analysis (3)
Compares patterns of political behavior and interaction in various political systems.

335 Comparative Political Change (3)
A comparative study of sources and patterns of political change.

340 Political Philosophy (3)
The major thinkers in the Western tradition of political philosophy from Plato to the present; the principal concepts and theories. (Not the same as Philosophy 345) May not be taken for credit by the student who has taken Political Science 340W.

340W Political Philosophy (4)
Same as Political Science 340, with extensive writing assignments designed to satisfy university writing requirement for Political Science majors. May not be taken for credit by the student who has taken Political Science 340.

341 Research Proseminar in Political Philosophy (3)
Prerequisite: Political Science 340 (may be taken concurrently). Research concepts and techniques applied to an individual project in political philosophy.

347 Political Theory and Political Practice (3)
Thought and action in politics. Alternative modes of participation in political activity.

350 World Politics (3)
Political relationships among governments and other participants within the global system; foreign policy-making and implementation through such means as diplomacy, alliances, aid, force; the role of non-state actors such as the United Nations, multinational corporations, and liberation movements.

351 Research Proseminar in International Politics (3)
Prerequisite: Political Science 350 (may be taken concurrently) or Political Science 352. Research design, strategies and techniques applied in the study of international politics.

352 American Foreign Policy (3)
United States' foreign policy since World War II. Institutions and bureaucracies of foreign policy decision-making, military and national security policy, domestic sources of foreign policy.

375 Public Law (3)
Nature and function of public law particularly within the Anglo-American political tradition. May not be taken for credit by the student who has taken Political Science 375W.

375W Public Law (4)
Same as Political Science 375, with additional writing component designed to satisfy university writing requirement for political science majors. May not be taken for credit by the student who has taken Political Science 375.

376 Research Proseminar in Public Law (3)
Prerequisite: Political Science 375 (may be taken concurrently). Research concepts and techniques applied to an individual project in public law.

407 Quantitative Methods in Political Science (3)
Quantitative research methods in political science. Introduction to research design and statistical measures employed in analyzing social science research data.

410 Political Parties (3)
The structure and methods by which the political parties operate in the American political system with some comparisons to their structure and operation in other democratic societies.

411 Art of Administration (3)
Prerequisite: consent of instructor. Public administration as "art" rather than "science." Administrative novels and other fictional literature, and other audio-visual media.

412 The Art of Politics (3)
Prerequisite: consent of instructor. Politics as practiced and understood by practitioners of the art. A seminar which features guest lecturers.

413 Pressure Groups and Public Opinion (3)
The power and growth of farm, labor, business, and noneconomic pressure groups; interest group activity in Congress, administration and courts; public opinion and propaganda.

414 The Legislative Process (3)
The legislative process in Congress and state legislatures. Policy, representation, reform and behavior of individual legislators. Bureaucratic lawmaking and the legislative roles of the President and interest groups.

415 Power and Participation in America (3)
How and why people behave politically in the United States. The "power elite" debate, the changing American voter, and the dynamics of political participation.

416 The American Presidency (3)
Presidential power, the resources on which that power is based, and the limitations on the use of that power. The relations between the President and Congress, the bureaucracy, the press and the public.

420 Governing the Urban Community (3)
Ideas, institutions, interests in the governance of urban communities, emphasizing decision-making, problem-solving, policy-making, and administrative institutions.

421 Public Finance Administration (3)
Prerequisite: Political Science 320. Survey of national, state, and local taxing and spending systems. Emphasis on political determinants of budget policy.

422 Public Personnel Administration (3)
Prerequisite: Political Science 320. The civil service and the merit system; recruitment procedures and examinations; position classification, salary structures retirement plans, in-service training, employee organizations, and personnel supervision.

423 Regional Planning and Development (3)
Prerequisite: Political Science 320 or consent of instructor. Governmental policies, procedures, and agencies involved in planning and development of regions. Regional problems and objectives, emerging views of regional planning, and investment allocation during the development process.

424 Urban Planning and Development (3)
Prerequisite: Political Science 320 or consent of instructor. City planning; the legal bases and fundamental concepts of planning; and the organization of the general plan, zoning laws and administration, urban renewal, and capital programming.

425 Comparative Public Administration (3)
Prerequisites: Political Science 320. Cross-cultural comparison of public administration systems; application of different models of analysis to administrative institutions; bureaucracy; ecology of public administration in modernized and developing societies; and the role of public administration in nation-building.

426 Collective Bargaining in the Public Sector (3)
Prerequisite: Political Science 320. Bargaining in the public sector; principles, practices, problems in negotiating labor contracts; mediation, conciliation, fact-finding and arbitration settlement techniques; government as an intervenor, moderator, and judge of last resort.

427 Current Issues in Urban and Metropolitan Policy (3)
Policy issues and alternatives in urban and metropolitan problem areas such as law enforcement, transportation, housing or education.

429 Public Personnel Training (3)
Training methodology in public administration. The problems, methods and institutions in the training of public personnel emphasizing labor-management relations.

430 Government and Politics of a Selected Nation-State (3)
Prerequisite: Political Science 330 or consent of instructor. The political institutions and processes of a selected nation-state. May be repeated for credit.

431 Government and Politics of a Selected Area (3)
Prerequisite: Political Science 330 or consent of instructor. The structures and functions of national political systems in a selected geographic area. May be repeated for credit.

440 Political Ideologies and Attitudes (3)
The content and historical evolution of modern ideologies such as liberalism, democracy, communism, socialism and fascism. Their relationship to social and political change.

442 Problems of Democratic Political Thought (3)
Philosophies and theories of democratic political systems; American political thought.

443 The Theory and Philosophy of Marxism (3)
Prerequisite: Political Science 340. Marxist theory and philosophy from its pre-Hegelian roots to the present.

446 Corruption, Ethics and Public Policy (3)
Ethical problems which face persons in the public service. The focus is on practical decision-making.

451 Problems in International Politics (3)
Prerequisite: Political Science 350. Selected contemporary problems in world politics. See department bulletin for subject focus each semester. May be repeated for credit.

452 Foreign Policy of a Selected Country or Group of Countries (3)
Objectives, capabilities, policy-making processes, and implementation of the foreign policies of a particular country or group of countries. Focus may be on United States, Soviet Union, Latin America or other countries or areas. May be repeated for credit.

455 Comparative Analysis of Foreign Policies (3)
Frameworks for analyzing the foreign policies of state; domestic and external determinants of foreign policy actions; foreign policy decision-making institutions and processes, foreign policy objectives and instruments.

456 The National Security Establishment (3)
Conflicting theories of national security, the functions of defense and intelligence bureaucracies in foreign and domestic policy making, problems of arms control, and the dangers to democratic values and institutions posed by the technology of national security.

457 Politics of International Economics (3)
Prerequisite: Economics 100 or consent of instructor. The link between economics and international politics. The political economy of free trade and imperialism, of neo-colonialism and foreign aid.

461 The United Nations and Other Public International Organizations (3)
Prerequisite: Political Science 350. Structure and functions of United Nations and various specialized and regional international organizations.

470 Judicial Process (3)
Prerequisite: Political Science 375 or consent of instructor. The nature, functions and roles of courts in the Anglo-American legal system; the nature, functions and roles of major participants in the American legal system, including judges, attorneys and citizens.

473 Introduction to Constitutional Law (3)
The role of the courts, the presidency, Congress and the states within the US constitutional system. Judicial review, presidential impoundment and impeachment, presidential foreign and military powers, regulation of the economy and public morals, and congressional investigations.

474 Seminar in Constitutional Law: Civil Rights and Civil Liberties (3)
Prerequisite: Political Science 375 or consent of instructor. Case studies in constitutional rights and liberties, involving relationships between the individual and government which are affected by the Bill of Rights and the 14th Amendment.

475 Administrative Law (3)
Prerequisite: Political Science 320 or 375 or consent of instructor. Law as it affects public officials and agencies in their relations with private citizens and the business community. Case materials and regulatory practices.

482 Environmental Policy and Politics (3)
The nature of environmental problems, national and international. The public policy-making process and environmental issues.

485 Politics of Change (3)
A specific cultural, religious, or ethnic interest group; the impact of an ideology, movement or individual or political processes and behavior. Role of women, politics of women and the law, women's liberation movement. May be repeated for credit.

491 International Internship (3)
Prerequisite: consent of instructor. 10 hours work per week with officials of foreign governments in the Los Angeles-Orange County area, usually consular officials. Individual supervision by faculty and cooperating officials. Interns meet with instructor by arrangement.

492 Prelaw Internship (3)
Prerequisite: consent of instructor. The legal profession the public rather than private spheres. A supervised working commitment of 10 hours weekly with an assigned individual or organization.

497 Government Internship (3)
Prerequisites: public administration concentration and consent of instructor. Students work 15–20 hours per week as supervised interns in a public agency. Supervision by the faculty and cooperating agency. In addition, a weekly three-hour seminar.

498 Political Internship (3)
Prerequisites: political science concentration and consent of instructor. Students work 8–12 hours per week with elected officials or candidates for elective office. Individual supervision by the faculty and cooperating individuals. Interns meet with instructor by arrangement. May be repeated for credit.

499 Independent Study (1–3)
Prerequisite: open to advanced students in political science with consent of department chair.

509 Administrative Organization and Process (3) (Formerly 419)
Prerequisite: consent of instructor. For graduate students in public administration who have not had an introductory course in public administration. Organizational theory and practice, decision making, systems analysis, performance evaluation and administrative improvement.

511 Seminar in American Politics (3)
Prerequisite: consent of instructor. The political process in the United States.

519 State and Local Government (3)
The structure, processes, functions, and interrelationships of state and local governments in American society. State, county, municipal and special district government in California as compared with other states.

521 Seminar in Public Administration Theory (3)
Prerequisites: a course in basic statistics and Political Science 320 or 509. The concepts, models and ideologies of public administration within the larger political system.

522 Seminar in Public Personnel Administration (3)
Prerequisites: A course in basic statistics Political Science 320 or 509. Topics in public personnel administration.

523 Administrative Research and Analysis (3)
Prerequisites: a course in basic statistics and Political Science 320 or 509. Concepts and methods employed in administrative research and analysis: Organization and procedure surveys, performance evaluation techniques, administrative data sources and their uses, and report writing.

524 Seminar in Environmental Planning (3)
Prerequisite: a course in basic statistics and Political Science 320 or 509. Problems and issues in the physical and human environment of the urban community.

525 Seminar in Metropolitan Area Government (3)
Prerequisites: A course in basic statistics and Political Science 320 or 509. Political and policy issues facing metropolitan America, and the capacity of governmental institutions to handle urban problems.

526 Seminar in Administrative Behavior (3)
Prerequisites: A course in basic statistics and Political Science 320 or 509. Management oriented analysis of organizational behavior. Treatment of decision making, leadership, communication, group dynamics and ethical aspects of organization.

528 Seminar in Public Administration and Policy (3)
Prerequisites: a course in basic statistics and Political Science 320 or 509. Interplay between public policy and program administration in federal government. Discussion of administrators' role in policy development, administrative discretion in implementing policy, use of political resources by administrators.

530 Seminar in Cross-National Politics (3)
Prerequisites: consent of instructor. The integration of international relations and comparative politics, emphasizing the interdependence of nations and non-state actors in the world political system.

540 Seminar Readings in Political Philosophy (3)
Prerequisite: undergraduate preparation in political theory or philosophy. This course examines the foundations of contemporary political science through readings in the classics of political philosophy.

541 Seminar in Contemporary Political Theory (3)
Analysis of contemporary trends in the study of politics. Emphasis on behavioral political science, criticisms of it and current empirical approaches to the study of politics.

597 Project (3)
Prerequisite: consent of instructor.

598 Thesis (3–6)
Prerequisite: consent of instructor.

599 Independent Graduate Research (1–3)
Prerequisite: consent of department chair. To be taken only after or concurrent with the completion of the required 15 units of graduate seminars.

DEPARTMENT OF PSYCHOLOGY

FACULTY
P. Christopher Cozby
Department Chair

Frank Bagrash, Ernest Dondis, Peter Ebersole, Allen Gottfried, Arthur Graesser, Daniel Kee, Richard Lindley, Carol Lindquist, Richard Lippa, Richard McFarland, Douglas Navarick, David Perkins, Ronald Riggio, Michael Scavio, Louis Schmidt, Don Schweitzer,* William Smith, Edward Stearns, George Watson, Arthur Webber, Geoffry White, Margaret White, Stanley Woll, Patricia Worden

BACHELOR OF ARTS IN PSYCHOLOGY

The major is designed to educate students in a wide variety of the content areas in psychology. A structured program of core requirements presents the multifaceted nature of psychological inquiry. The program also allows flexibility in constructing a concentration.

Courses provide the present knowledge in the field and the methods used to obtain new knowledge. Thus, course content generally reflects the interplay among theory, method, data, and practice. Majors may expect to become familiar with the scientific method, statistics, experimental design, and the use of psychological tests as tools of inquiry into the nature of behavior.

The major provides a sound background in psychology as part of a liberal arts education. This background may serve as preparation for career choices related to the field of psychology. Alternately, it may provide a basis for employment and professional training in business, law, or public organizations. The major also provides a foundation for professional careers in psychology through graduate education.

Requirements for the Major	*Units*
I. **Lower Division**	9
Psychology 101 Introductory Psychology (3)	
Psychology 202 Research Methods in Psychology (3)	
Psychology 203 Elementary Statistics (3)	

* University administrative officer

II. **Upper Division** 15

Psychology 302 Learning and Memory (3)

One of the following three courses (3):

Psychology 303 Sensation and Perception

Psychology 304 Comparative Animal Behavior

Psychology 321 Physiological Psychology

One of the following three courses (3):

Psychology 331 Psychology of Personality

Psychology 351 Social Psychology

Psychology 361 Developmental Psychology

Psychology 408 History of Psychology (3)

Psychology 461 Psychological Testing (3)

III. **Upper Division (300/400 level) Psychology Electives** 12

A full range of options, including complementary courses, are available for the 12 units of upper-division (300–400 level) electives. These courses can form an area of focus wherein students can pursue their own interests in depth, especially at the 400 level. These courses should be selected in consultation with a psychology adviser.

IV. **Total** **36**

No more than three units of Independent Study (Psychology 498 or 499) may be counted toward the major. Each course counted toward the major must be completed with a grade of C or higher.

Student Advisement

The department undergraduate advisement coordinators serve as general advisers and assist students in selecting a specific faculty member to provide advisement.

All who declare psychology as their major should meet with a psychology faculty adviser during the first semester to develop a study plan. Students are also encouraged to obtain a copy of the *Psychology Department Student Handbook* from the department office. The handbook presents information on student advisement and faculty teaching and research interests. Early consultation with a psychology faculty adviser is especially important for those interested in pursuing graduate training, careers in psychology or related fields or a double major or minor.

Community College Transfer Students: A maximum of nine units of psychology credit may be applied towards the requirements for the major by community college transfer students. These must fit the requirements of Psychology 101, 202, and 203 as specified in the course descriptions. Any additional units taken in psychology at a community college and approved by the university may be used for university credit towards the required 124 units for graduation.

Elementary/Secondary Teaching Credential

The Psychology Department has been granted a waiver by the Commission for Teacher Preparation and Licensing which means that psychology majors, providing they follow an acceptable program of courses, can be granted either the multiple subject (elementary) or single subject (secondary) credential without having to take the state examination otherwise required by the Ryan Act. See the department's undergraduate advisement coordinator.

Minor in Psychology

The Psychology Department offers an approved minor program consisting of 21 units. The minor permits recognition for a concentration in Psychology. Students majoring in related disciplines (e.g., sociology, human services) may find the minor useful in improving their career opportunities.

The minor program consists of the following courses:

Psychology 101 Introductory Psychology

Psychology 202 Research Methods in Psychology

One of the following laboratory/field research courses:

Psychology 302 Learning and Memory

Psychology 303 Sensation and Perception

Psychology 304 Comparative Animal Behavior

Psychology 321 Physiological Psychology

Psychology 451 Experimental Social Psychology

Psychology 453 Attitude Formation and Change

Psychology 463 Experimental Child Psychology

Psychology 470L Behavior Modification Laboratory

One of the following:

Psychology 331	Psychology of Personality
Psychology 341	Abnormal Psychology
Psychology 351	Social Psychology
Psychology 361	Developmental Psychology

Plus three other upper-division courses or two other upper-division courses and Psychology 203. No more than three units of Independent Research (Psychology 498 or 499) may be used to meet the requirements of the minor. Each course counted toward the minor must be completed with a grade of C or higher.

MASTER OF ARTS IN PSYCHOLOGY
MASTER OF SCIENCE IN PSYCHOLOGY (Clinical/Community)

See "Graduate Programs."

PSYCHOLOGY COURSES

101 Introductory Psychology (3)
Basic concepts and problems in psychology. Perception, learning, cognitive processes, development, motivation, personality, abnormal behavior, physiological and social psychology.

202 Research Methods in Psychology (3)
Prerequisite: Psych 101. The fundamentals of psychological research methods. Participation in conducting experiments and analyzing data. (2 hours lecture, 3 hours laboratory)

203 Elementary Statistics (3)
Descriptive statistics, hypothesis testing, analysis of variance, correlational techniques.

204 Introduction to Computer Use in Psychology (1)
Prerequisite: completion of general education math requirement. General introduction to computer systems, data input, use of software packages and the role of computers in research, teaching, counseling and testing. Not open to students who have completed Computer Science 112 or Management Science 289.

301 The Psychology of Human Sexual Behavior (3)
Prerequisite: Psych 101 or consent of instructor. Topics in human sexual behavior integrating sexuality as social, clinical, developmental and biological. Sexual identity, sexual behaviors, romantic love, causes and treatment of sexual dysfunctions.

302 Learning and Memory (3)
Prerequisites: Psych 101, 202, 203 or consent of instructor. Theoretical and experimental investigations in learning, memory, thinking, problem solving and motivation. (2 hours lecture, 3 hours laboratory)

303 Sensation and Perception (3)
Prerequisites: Psych 101, 202, 203 or consent of instructor. Theoretical and experimental investigations in sensory and perceptual processes, including vision and audition. (2 hours lecture, 3 hours laboratory)

304 Comparative Animal Behavior (3)
Prerequisites: Psych 101, 202, 203 or consent of instructor. Theoretical and experimental investigations in animal behavior, including humans. The interspecies comparisons of behavior and sensory, motor, endocrine, and neural structures. (2 hours lecture, 3 hours laboratory; one or more field trips required)

311 Educational Psychology (3)
Prerequisite: Psych 101. Application of psychological research and theory to educational processes, including learning, motivation, individual differences, teaching methods and evaluation.

321 Physiological Psychology (3)
Prerequisites: Psych 202 or Bio Sci 101 or equivalent. Anatomy and physiology of the nervous system, role of neural and humoral agents in complex behavior. Relation between behavioral and biological processes. (2 hours lecture, 3 hours laboratory)

331 Psychology of Personality (3)
Prerequisite: Psych 101. Broad survey of research, theory and assessment techniques in the area of personality.

341 Abnormal Psychology (3)
Prerequisite: Psych 101. Symptoms, causes, treatment and prevention of psychopathology; the neuroses, the personality disorders, psychophysiological disorders, psychoses, addictions, sexual deviations and organic disorders.

343 Program Evaluation (3)
(Same as Sociology 343)

350 Environmental Psychology (3)
Prerequisite: Psych 101 or consent of instructor. Theory, research and method in the study of behavior-environment relationships. The influence of such variables as population density and urban design on human behavior.

351 Social Psychology (3)
Prerequisite: Psych 101. Phenomena related to social behavior and the nature of group processes and influences. Attitude formation and change, aggression, altruism, affiliation and socialization.

361 Developmental Psychology (3)
Prerequisite: Psych 101. Psychological and physical development from birth through adulthood. Theories, methods and research findings regarding the development of perception, cognition, learning, personality and social behavior.

362 Psychology of Aging (3)
Prerequisite: Psych 101. Characteristics of humans during the adult years. Topics include physical, intellectual, cognitive, personal, social, and psychological development, vocational and family changes, retirement, and death.

364 Intelligence: A Life-span Perspective (3)
Prerequisite: Psych 101 or consent of instructor. Nature, determinants and consequences of intelligence. Sociopolitical aspects of the testing movement. Stability, change, and prediction of IQ, social and biological influences, educational and occupational consequences, genetic vs. environmental controversy.

391 Industrial Psychology (3)
Prerequisite: Psych 101. Traditional and current psychological principles and techniques in industrial and business settings. Selection, placement, training, work motivation, human factors, environmental influences, system safety, product liability, problems of people at work, organizational development and consumer behavior.

408 History of Psychology (3)
Prerequisite: senior standing. The development of psychology from early times to the present; major traditions and conceptual issues.

412 Theories of Learning (3)
Prerequisite: Psych 302 or consent of instructor. Principles of learning according to the major theoretical systems. Critical evaluation of the theories and systems.

413 Perception (3)
Prerequisite: Psych 303 or consent of instructor. Psychological problems in perception.

415 Cognitive Processes (3)
Prerequisite: Psych 302, 303 or consent of instructor. Theory and research with respect to problem solving, thinking, concept learning, language, decision making and judgment, cognitive structure, cognitive development.

416 Motivation (3)
Prerequisite: Psych 302 or consent of instructor. Concepts and evidence concerning the activation and direction of behavior, including consideration of needs, wishes, drives, incentives and preferences.

417 Psycholinguistics (3)
Prerequisites: six hours of upper-division work in psychology or linguistics, or consent of instructor. Psychological and linguistic approaches to the study of language. Innate and learned aspects of language development, motivational and social aspects of language, symbolism, language disorders and universals. (Same as Linguistics 417)

431 Theories of Personality (3)
Prerequisite: Psych 331. Traditional and contemporary theories of personality, including psychoanalytic, humanistic-existential, behavioral, trait and social interaction approaches.

451 Experimental Social Psychology (3)
Prerequisites: Psych 203 or equivalent, 202 and 351. Topics in social behavior, group processes and influences. Laboratory experiments in attitude formation and change; group processes such as communication, problem solving, and norm formation; interpersonal influence and perception. (2 hours lecture, 3 hours laboratory)

452 Interpersonal Processes (3)
Prerequisite: Psych 351 or Sociology 341, or consent of instructor. Theory and research on basic interpersonal processes (interpersonal judgment, communication, social performance, attraction and affiliation) and current models of interaction.

453 Attitude Formation and Change (3)
Prerequisite: Psych 351 or consent of instructor. The theories of attitude formation and change; research methodologies and measurement strategies. (2 hours lecture, 3 hours laboratory)

454 Social Cognition (3)
Prerequisites: Psych 351 or 415. Theory and research on the processing and representation of social information. Cognitive and social psychology, including impression formation, attribution theory, non-verbal communication, sociolinguistics, developmental issues.

461 Psychological Testing (3)
Prerequisite: Psych 203 or equivalent. Intelligence, aptitude, interest, and personality testing. Theory, construction, evaluation, interpretation and uses of psychological tests.

463 Experimental Child Psychology (3)
Prerequisites: Psych 202 and 361. Research methodology in developmental psychology. Critical examination of empirical studies. Design and execution of an original empirical investigation in an area of the student's choice. (2 hours lecture, 3 hours laboratory)

465 Advanced Psychological Statistics (3)
Prerequisite: Psych 203. General linear model, regression, analysis of variance techniques and applications to research design and evaluation of data.

466 Social Science Computer Applications (3)
Prerequisite: Psych 203 or consent of instructor. Computers in psychology. Batch processing; interactive computing; on-line experimentation.

467 Multivariate Analyses in Psychological Research (3)
Prerequisite: Psych 465 or consent of instructor. Bivariate and multivariate regression, multivariate analysis of variance, discriminant analysis, factor analysis, applications to psychological research.

470 Behavior Modification (3)
Prerequisites: Psych 101, 341, and junior or senior standing. Recommended: Psych 202 or 302. Exposition and evaluation of theory, research, and procedures for human behavior modification.

470L Behavior Modification Laboratory (3)
Prerequisites: Psych 470 (may be taken concurrently), and consent of instructor. A laboratory experience in the natural environment where students apply the principles and procedures of behavior modification. (9 hours per week).

472 Community Psychology (3)
Prerequisites: Psych 101, 341, or consent of instructor. Theory and research. A survey of a variety of programs developed within this model; their service delivery aspects and the methodology of program evaluation.

474 Medical Psychology (3)
Prerequisites: Psych 101 and 341 or consent of instructor. Behavioral medicine; neuropathology; clinical neuropsychology; psychosomatic, nutritional, endocrine and developmental disorders.

475 Psychopharmacology (3)
Prerequisite: Psych 321 or 15 units of biological science. Basic principles underlying the use of drugs and related substances to modify experience and behavior. Historical and cultural variations in drug usage. Psychological, medical and social potentialities and limitations of these techniques.

477 Human Sexual Dysfunction (3)
Prerequisites: Psych 101, 301 and 341, and constent of instructor. Symptoms, causes, treatment and prevention of sexual disorders. Male and female inadequacy, aging, sex and disability, drug complications, homosexuality, transvestism and transexuals, ethical and legal issues.

481 Survey of Clinical Psychology (3)
Prerequisites: Psych 331, 341 and 461. Methods, diagnosis, therapeutic techniques, research, and problems.

495 Internship in Psychology (3)
Prerequisites: 9 units of psychology and consent of instructor. Supervised experience in an off-campus location. Class meetings will be spent discussing the internship experience both from a practical and a theoretical standpoint. Application forms must be completed prior to enrollment.

496 Student-to-Student Tutorials (1-3)
Consult "Student-to-Student Tutorials" in this catalog for more complete course descriptions.

498 Independent Laboratory Research (3)
Prerequisites: completion of one upper-division laboratory course in psychology and consent of instructor. Study plan must be approved by university census date. Individual laboratory investigation under direction of a faculty member. No more than three units of credit towards the major.

499 Independent Study (1-3)
Prerequisites: completion of at least one upper-division laboratory course in psychology and consent of instructor. Study plan must be approved by university census date. Individual library study under direction of a faculty member. No more than three units of credit toward the major.

501A Proseminar (3)
Prerequisite: admission to a psychology graduate program or consent of instructor. To prepare beginning graduate students for more advanced courses. Intensive coverage of three of the following topics: sensation and perception, physiological psychology, learning, cognitive processes.

501B Proseminar (3)
Prerequisite: admission to a psychology graduate program or consent of instructor. To prepare beginning graduate students for more advanced courses. Intensive coverage of three of the following topics: personality, social psychology, abnormal psychology, developmental psychology.

510 Experimental Design (3)
Prerequisites: Psych 203, 465 and admission to a psychology graduate program or consent of instructor. Principles and methods of planning and carrying out systematic investigations on the behavior of complex organisms, interdependence of experimental design and statistical evaluation of results. Practice in formulation of testable hypotheses.

515 Seminar: Psycholinguistics (3)
(Same as Linguistics 515)

520 Seminar: Experimental Psychology (3)
Prerequisites: Psych 465, 501A and admission to a psychology graduate program or consent of instructor. Content of seminar varies each semester but is devoted to an examination of current topics within experimental psychology. May be repeated for credit.

521 Seminar: Personality (3)
Prerequisites: Psych 501B and admission to a psychology graduate program or consent of instructor. Central problems in personality. May be repeated for credit.

522 Seminar: Developmental Psychology (3)
Prerequisites: Psych 361 and admission to a psychology graduate program or consent of instructor. Theory and research in developmental psychology. May be repeated for credit.

531 Individual Mental Testing (3)
Prerequisites: Psych 461 and admission to a psychology graduate program or consent of instructor. The major tests of intelligence. Practical experience in administration, scoring and interpretation of these instruments. (2 hours lecture, 3 hours laboratory)

540 Proseminar: Community Psychology (3)
Prerequisite: admission to the M.S. Clinical/Community program or consent of instructor. Community psychology; its historical and philosophical roots, theoretical framework, research within the area, and current practical applications.

542 Proseminar: Clinical Psychology (3)
Prerequisites: Psych 481 or equivalent; and admission to M.S. Clinical/Community program or consent of instructor. Clinical psychology; broad theoretical considerations as well as their relationship to clinical practice in testing, diagnosis, ethics, and psychotherapy.

544A Psychodiagnostics A (3)
Prerequisite: admission to M.S. Clinical/Community program or consent of instructor. A skills course in conducting diagnostic interviews, writing case histories, and giving and scoring objective diagnostic tests, and relevant issues in testing assessment. (2 hours lecture, 3 hours laboratory)

544B Psychodiagnostics B (3)
Prerequisites: admission to M.S. Clinical/Community program or consent of instructor and successful completion of Psych 544 A. A laboratory course covering administration, scoring, and interpretation of traditional projective tests and relevant issues in testing assessment and research. (2 hours lecture, 3 hours laboratory)

546 Behavior Therapy (3)
Prerequisite: admission to M.S. Clinical/Community program or consent of instructor. Behavior influence. The student will design and execute project in a clinical setting. (2 hours lecture, 3 hours laboratory)

551 Seminar: Social Psychology (3)
Prerequisites: Psych 501B and admission to a psychology graduate program or consent of instructor. Central problems and major theories in the field of social psychology. May be repeated for credit.

560 Individual Therapy Techniques (3)
Prerequisite: admission to M.S. in Clinical/Community program or consent of instructor. Specific therapy techniques and general approaches to individual psychotherapy. Theoretical material, and the material's practical application to clients.

562 Group, Marital and Family Therapy (3)
Prerequisites: satisfactory completion of the first one and one-half years' work in the M.S. in Clinical/Community Psych program. Group, marital and family therapy. Theoretical material and the material's practical application to clients in field work.

564 Fieldwork Seminar (3)
Prerequisite: satisfactory completion of first year's work in the M.S. in Clinical/Community Psych program. Theoretical and applied problems arising from the fieldwork experience. Must be taken concurrently with Psych 566A.

566A,B Fieldwork (4,4)
Prerequisite: satisfactory completion of first year's work in the M.S. in Clinical/Community program. Supervised clinical work in mental health agencies. Psych 566A must be taken concurrently with Psych 564. (Minimum of 12 hours field experience per week.)

598 Thesis Research (3 or 6)
Prerequisites: formal advancement to candidacy and consent of instructor. Development of a proposal for a major piece of empirical research, execution of the study, analysis of the results, and writing of a thesis.

599 Independent Graduate Research (3)
Prerequisites: admission to a psychology graduate program and consent of instructor. Empirical research in a selected area of psychology. Designed, conducted and written by the student with the collaboration of a member of the faculty. May be repeated for credit.

DEPARTMENT OF RELIGIOUS STUDIES

FACULTY
Donald Gard
Department Chair

Daniel Brown, Joseph Kalir, George Saint-Laurent, James Santucci

BACHELOR OF ARTS IN RELIGIOUS STUDIES

This program provides the intellectual tools and scholarly background required for understanding the forms and traditions of religion that have appeared in human culture.

Students are encouraged to ask the questions which particular religions attempt to answer in their own way. The aim of each course is an open and academic examination of ultimate questions as they apply to contemporary situations. The relevance of beliefs, ethics and worship in both Eastern and Western civilizations for the cultural development of mankind is examined.

Major in Religious Studies.

(Each course counted toward the major must be completed with a grade of C or higher.)
Language: One year of the classic languages of religious literature (e.g., Arabic, Greek, Hebrew, Latin or Sanskrit) required of all majors. One semester of two different languages may be taken.

Lower-Division Requirements: 12 units

Religious Studies 200	Introduction to Christianity (3)
Religious Studies 210	Introduction to Judaism: From the Beginning to the Middle Ages (3)
Religious Studies 250	The Religion of Islam (3)
Religious Studies 270	Introduction to the Oriental Religions (3)

Upper-Division Requirements: 27 Units
Western Religions: 6 units, 3 units from each section
Section A: Scripture
Religious Studies 330 Hebrew Scriptural Studies (3)
Religious Studies 331 New Testament Studies (3)
Section B: Development of Thought
Religious Studies 332 The Land of the Bible: Everyday Life in Old Testament Times (3)
Religious Studies 335 Christianity and Judaism (3)
Religious Studies 345A History and Development of Christian Thought: The Beginning to 1274 (3)
Religious Studies 345B History and Development of Christian Thought: 1275 to the Present (3)
Religious Studies 346A History and Development of Jewish Thought: The Beginning to Moses Maimonides (3)
Religious Studies 346B History and Development of Jewish Thought: Ben Gerson to the Present (3)
Religious Studies 350 Major Christian Traditions (3)
Religious Studies 435 Old Testament Criticism (3)
Religious Studies 436 New Testament Criticism (3)
History 405 History of the Jews (3)
History 417B Roman Empire (3)
History 425B The Reformation (3)
History 466A Islamic Civilization: Arab Era (3)

Asian and Non-Western Religions: 6 units
Religious Studies 370 Modern Non-Traditional Religious Movements in America (3)
Religious Studies 470 Seminar in Oriental Religions (3)
History 465A History of India (3)
Philosophy 350 Oriental Philosophy (3)

Religious Experience/Phenomenology of Religion: 6 units
Religious Studies 343 The Bible and Its Ethics (3)
Religious Studies 376 Dimensions of Religion (3)
Religious Studies 380 Interreligious Relationships (Christianity, Islam, Judaism) (3)
Religious Studies 431 Jewish Mythology, Religion and Mysticism (3)
Religious Studies 433 Myth and Legend in the Bible (3)
Religious Studies 475 Anxiety, Guilt and Freedom (3)
Religious Studies 476 The Holocaust: The Destruction of European Jewry, 1933–1945 (3)
Anthropology 305 Anthropology of Religion (3)
Philosophy 370 Philosophy of Religion (3)
Sociology 458 Sociology of Religious Behavior (3)

All majors must take the following three upper-division courses:
Religious Studies 300 Methodologies of Religious Studies (3)
Religious Studies 485 Major Contemporary Religious Thinkers (3)
Religious Studies 486 Major Contemporary Religious Topics (3)

Total units required for the major (including language) 45. Courses in other schools and departments may be acceptable upon consultation with the chair of the Department of Religious Studies.

Minor in Religious Studies

The minor in religious studies is composed of 24 units in religious studies exclusive of the general education requirements.

Lower Division: 12 units
Religious Studies 110 Comparative Study of the World's Great Religions (3)
Any introductory course in psychology, sociology, anthropology, philosophy, etc., with the approval of the department chair.
Any *two* of the following:
Religious Studies 200 Introduction to Christianity (3)
Religious Studies 210 Introduction to Judaism: From the Beginning to the Middle Ages (3)
Religious Studies 250 The Religion of Islam (3)
Religious Studies 270 Introduction to the Oriental Religions (3)

Upper Division: 12 units
Religious Studies 485 Major Contemporary Religious Thinkers (3)
Religious Studies 486 Major Contemporary Religious Topics (3)
Six additional units in a package emphasis (i.e., Christianity, Judaism, Eastern Religions, etc.)

RELIGIOUS STUDIES COURSES

110 Comparative Study of the World's Great Religions (3)
(Same as Philosophy 110)

200 Introduction to Christianity (3)
The Christian scriptures and their background in the light of modern exegesis; the Synoptic Gospels, written creeds and liturgical formulae associated with the Orthodox, Roman and Protestant communions.

201 Origins of the New Testament (3)
The sources and content of the New Testament writings which reflect the life and beliefs of the Christians in the first century of the Common Era, including literary and historical criticism.

210 Introduction to Judaism: From the Beginning to the Middle Ages (3)
Review of the laws, rituals, customs, holidays and ceremonies of Judaism from the beginning.

211 Introduction to Judaism: From the Middle Ages to the Present (3)
Review of the concepts, teachings, philosophy, basic ideas, way of life, and religious aspects of Judaism.

220 Ancient Near Eastern Religions (3)
An investigation of the archaic religious systems of Mesopotamia, Egypt and Canaan insofar as their myths, rituals and legal codes have emerged from literary and other artifacts of archeological discovery.

246A Basic Hatha Yoga (2)
(Same as PE 246A)

246B Intermediate Hatha Yoga (2)
(Same as PE 246B)

250 The Religion of Islam (3)
The religion of Islam, its background and main teachings: the rise of Islam, the caliphate, Islamic theology, teachings, mysticism and philosophy.

270 Introduction to the Oriental Religions (3)
The main teachings of a major South Asian, Far Eastern, or 'Oriental' religion per semester. Such religions as Buddhism, Hinduism, Taoism, Shintoism, and Zoroastrianism will be discussed. May be repeated for credit with different subject matter.

300 Methodologies of Religious Studies (3)
Prerequisite: Religious Studies 110 or consent of instructor. Religious studies as an academic discipline; contributions from history, sociology, psychology, phenomenology and anthropology. Definition and function of religion, its varieties, its categories, and the methodologies by which it is studied.

301 Sanskrit (3)
(Same as Linguistics 301)

305 Anthropology of Religion (3)
(Same as Anthropology 305)

330 Hebrew Scriptural Studies (3)
Specific areas of Hebrew Scriptures such as major and minor prophets, Psalms, values of wisdom writers, books of the Old Testament. May be repeated for credit with different subject content.

331 New Testament Studies (3)
Specific areas of the New Testament such as the Synoptic Gospels, The Pauline Corpus, The Johannine Corpus, etc. May be repeated for credit with different subject matter.

332 The Land of the Bible: Everyday Life in Old Testament Times (3)
How people lived in the Mediterranean world in the first century of the Christian era.

335 Christianity and Judaism (3)
Differences and similarities between Christianity and Judaism. The age of transition from Judaism to Christianity; origins and destinies.

343 The Bible and Its Ethics (3)
The ethics of the Bible, its significance, its problems and its meaning for modern times. The ideals of the ethics of the Bible and its approach to the contemporary problems.

345A History and Development of Christian Thought: The Beginning to 1274 (3)
Christian thought from apostolic times to the death of Thomas Aquinas; Old and New Rome, the Great Councils, the Middle Ages, and the marriage of faith and reason.

345B History and Development of Christian Thought: 1275 to the Present (3)
Christian thought from the death of Thomas Aquinas to the present; the cultural and philosophical backgrounds of the successive ages of scholasticism, the renaissance, baroque, reason and revolution, and the modern world.

346A,B, History and Development of Jewish Thought (3,3)
Every philosophy of Judaism dealing with the fundaments of the Jewish religious experiences. **A**—The beginning to Moses Maimonides. **B**—Ben Gerson to the present.

350 Major Christian Traditions (3)
Catholocism, Protestantism, Eastern Christianity, or Post-Reformation Communities; historical development and self-understanding, liturgy, creeds, moral norms, canonical laws, and outstanding figures. May be repeated for credit with different content.

370 Modern Non-traditional Religious Movements in America (3)
Beliefs, history, ritual and organizational make-up of non-traditional modern religions in America, such as Scientology, the Unification Church, Hare Krishna (ISKCON) and Rajneeshism as presented by guest speakers. Discussion of 'cult,' 'sect' and the occult will comprise portion of course.

376 Dimensions of Religion (3)
The great themes of religious thought viewed objectively and subjectively in history and in the present day. Seminar and discussion presentation.

380 Interreligious Relationships (Christianity, Islam, Judaism) (3)
A study of the attitudes of the religions of Christianity, Islam and Judaism toward each other, and the relationships between Christians, Jews and Moslems through the centuries.

431 Jewish Mythology, Religion and Mysticism (3)
Prerequisite: Religious Studies 211 or consent of instructor. Jewish mysticism, its inner significance, problems and meaning. The function which Jewish mysticism has had at varying periods.

433 Myth and Legend in the Bible (3)
Prerequisite: Religious Studies 210 or consent of instructor. An analysis of the stories of the Bible and a comparison with the folklore and mythology of other cultures.

435 Old Testament Criticism (3)
The Old Testament, its development and a literary study of its contents.

436 New Testament Criticism (3)
Prerequisite: Religious Studies 201 or consent of instructor. The history of the New Testament, its development and literary study of its contents. New insights into the critical studies of the New Testament.

458 Sociology of Religious Behavior (3)
(Same as Sociology 458)

470 Seminar in Oriental Religions (3)
A detailed investigation of a specific topic appropriate to the Oriental Religion under question or a specific segment of a major oriental religion such as the Yoga school in Hinduism, and Mahayana Buddhism. May be repeated for credit with different subject matter.

475 Anxiety, Guilt and Freedom (3)
The distinction between psychiatry and religious methods of understanding basic human emotions: "authority", "God", "faith", "forgiveness", "sin", "error", "repentance", "sex" and "absolution".

476 The Holocaust: The Destruction of European Jewry 1933-1945 (3)
The ordeal of European Jewry during World War II as reflected in art, music, drama, fiction, poetry, historical, psychological and religious writing.

485 Major Contemporary Religious Thinkers (3)
Prerequisites: Philosophy 110 or the equivalent. Religious thinkers contemporary to the modern world. Fulfills the course requirement of the university upper division baccalaureate writing requirement for religious studies majors. May be repeated with different content for additional credit.

486 Major Contemporary Religious Topics (3)
Prerequisites: Philosophy 110 or the equivalent. Modern topics of a religious nature related to social, political, psychological trends. Fulfills the course requirement of the university upper division baccalaureate writing requirement for religious studies majors. May be repeated with different content for additional credit.

495 Religious Studies Internship (3)
Prerequisites: junior or senior standing and consent of faculty coordinator. Designed to provide an in-depth work experience in the area of religion. Supervision by both faculty and cooperating institution. Interns meet for a biweekly seminar. May be repeated for credit.

499 Independent Study (1-3)
Supervised research projects in religious studies to be taken with consent of instructor and the department chair. May be repeated for credit.

RUSSIAN AND EAST EUROPEAN AREA STUDIES PROGRAM

FACULTY
Robert Feldman
Program Coordinator
David Depew (Philosophy), Robert Feldman (History), Charles Frazee (History), Gary Guertner (Political Science), Ronald Helin (Geography), Karl Kahrs (Political Science), R. Dean Mills (Communications), Joyce Pickersgill (Economics), Otto Sadovszky (Anthropology), Elena Tumas (Comparative Literature), Bruce Wright (Political Science), Michael Yessis (Physical Education)

BACHELOR OF ARTS IN RUSSIAN AND EAST EUROPEAN AREA STUDIES

The Russian and East European area studies program is an interdisciplinary program designed for students whose interests and career objectives are in government service, communication, international business or education. The program provides students already majoring in an existing discipline or department (i.e., history, business, biology, etc.) the opportunity to have a *second major.* In addition, the program fulfills the various cultural objectives common to any liberal arts program.

To qualify for this major, a student must complete (1) 16 units of Russian language or their equivalent, (2) 24 units of upper-division Russian area courses from at least four of the following fields: anthropology, comparative literature, economics, geography, philosophy, political science, history, foreign language, (3) 15 units of upper-division course work in a related discipline to be determined in consultation with a Russian area counselor. Students are encouraged to have these units apply toward a major in a traditional discipline.

The basic lower-division courses also may be used to meet general educational requirements.

RUSSIAN AND EAST EUROPEAN AREA STUDIES COURSES

All courses within the Russian and East European area studies program originate in other departments within the university. Students should refer to the department originating the course for description.

Communications
431 Mass Communications in Communist Systems (3)
Comparative Literature
373 Masters of Russian Literature (3)
Economics
330 Comparative Economic Systems (3)
331 The Soviet Economy (3)
Geography
338 Geography of the Soviet Union (3)
History
419 The Byzantine Empire (3)
434A Russia to 1890 (3)
434B Russian Revolution and the Soviet Regime (3)
437 East Europe (3)
490 Senior Research Seminar (3)
(when topic is Russian Revolution or Polish History)
Philosophy
382 Marx and Marxism (3)
Political Science
430 Government and Politics (of the U.S.S.R.) (3)
431 Government and Politics (of East Europe) (3)
443 Theory and Philosophy of Marxism (3)
452 Foreign Policy of the U.S.S.R. (3)

SOCIAL SCIENCES—MASTER OF ARTS

An interdisciplinary program offered by the School of Humanities and Social Sciences

FACULTY

Roger Joseph (Anthropology)
Graduate Program Coordinator
Wayne Hobson (American Studies)
Graduate Adviser

ADVISORY BOARD

The Advisory Board consists of one faculty representative from each participating department or program, two student representatives, and the dean of graduate studies or a representative (ex-officio). The participating departments are: Sociology, History, Geography, Afro-Ethnic Studies, Political Science, American Studies, Chicano Studies, Criminal Justice, Anthropology, Psychology, Philosophy and Economics.

MASTER OF ARTS IN SOCIAL SCIENCES

See "Graduate Programs."

SOCIAL SCIENCES COURSES

385 Philosophy of the Social Sciences (3)
(Same as Philosophy 385)

500 Social Science Theories (3)
A philosophical and theoretical basis for graduate work in the areas of social science. The interrelationships among the various social sciences as they relate to social, physical and political environments.

501 Social Science Methods (3)
Analytical comparison of the historical, humanistic and scientific methodologies in the social sciences. Contemporary trends in the social sciences methods.

502 Role of the Social Science Professional (3)
The role of the social science professional in public and private organizations. Role identity, power and decision-making in organizations, relationships with clients, and relationships to broader questions of social policy.

597 Project (3-6)
Individual direction by committee of faculty in research and preparation of either (a) formal proposal for an innovative social science-based program including academic justification and standards of evaluation, or (b) innovative work in a medium other than the written essay.

598 Thesis (3-6)
Individual direction by committee of faculty in research and preparation of a written research essay which will reflect an interdisciplinary program of study.

599 Independent Graduate Research (3)
Open to graduate students in social science with the consent of program adviser or coordinator. May be repeated for credit.

DEPARTMENT OF SOCIOLOGY

FACULTY

Tony Bell
Department Chair

Takenori Aso, John Bedell, Dennis Berg*, Jonathan Brower, Carol Copp, Helaine Feingold, Ronald Hughes, Hilla Israely, Perry Jacobson, Pat Lackey, Michael Mend, G. Nanjundappa, Rae Newton, Bartolemeo Palisi, Houshang Poorkaj, Lorraine Prinsky, Gerald Rosen, J. Rex Smith, C. Michael Stuart, Clarence Tygart, Ernest Works, Troy Zimmer

BACHELOR OF ARTS IN SOCIOLOGY

Sociology attempts to identify and understand the social functions and processes of human behavior. Sociology's subject matter ranges from the intimate family to the hostile mob, from crime to religion, from divisions of race and social class to the shared beliefs of a common culture, from the sociology of work to the sociology of sport and leisure, from the study of conformity to the study of deviance, from childhood to old age.

---

* University administrative officer

The Bachelor of Arts in Sociology will prepare a student for a diverse set of career options as well as for advanced studies in several areas including sociology, social welfare, environmental studies, education, public health and urban planning. To prepare for these goals students may group their studies around Contemporary Social Institutions; Social Psychology, The Individual in Society; The Theory and Methods of Sociology; Social Differentiation; Crime, Delinquency and Deviance; Applied Sociology; Environment, Population and Urbanization; Life Course Development. Students majoring in sociology are required to complete a minimum of 36 units of coursework in sociology. Please consult the undergraduate adviser or the chair of the department for current policy regarding the writing proficiency requirement. Included within the 36 units are 12 units of core courses required of all majors and 24 units of adviser-approved electives tailored to each student's career objectives. At least 27 units must be upper division. A total of nine units may be transferred from a community college or selected from either lower- or upper-division sociology course offerings.

	Units
Required courses	12
Sociology 101 Introduction to Sociology (3)	
Sociology 301 Theories of Social Behavior (3)	
Sociology 302 Social Research Methods (3)	
Sociology 303 Statistics for the Social Sciences (3)	
Sociology electives	24

Faculty advising is available to help in the selection of these courses.

MINOR IN SOCIOLOGY

For a minor in sociology, 21 units of sociology course work are required.

Required courses	9
Sociology 101 Introduction to Sociology (3)	
Sociology 203 Introduction to Sociological Analysis (3) *or* Sociology 302, Social Research Methods (3)	
Sociology 301 Theories of Social Behavior (3)	
Electives	12

Students minoring in sociology are to select 12 units of upper division course work in sociology. Faculty advising is available to help students minoring in sociology.

MASTER OF ARTS IN SOCIOLOGY

See "Graduate Programs."

SOCIOLOGY COURSES

101 Introduction to Sociology (3)
The basic concepts of sociology: includes social interaction, culture, personality, social processes, population, social class, the community, social institutions and sociocultural change.

102 Social Problems (3)
The extent, causes and consequences of a number of social problems. 20th-century America. The changing society.

133 Introduction to Gerontology (3)
Multidisciplinary overview of the characteristics, strengths and problems of older persons; the development of gerontology as a solution to problems of aging; services to older adults; working with older persons in various settings; education for careers in gerontology.

203 Introduction to Sociological Analysis (3)
Prerequisite: Sociology 101 or consent of instructor. The logical, conceptual and empirical foundations of a scientific analysis of human behavior. The theoretical, empirical and statistical aspects of sociology.

300 Introduction to Social Welfare (3)
Prerequisite: Sociology 101 or consent of instructor. The history, philosophy and development of thought in social welfare; the social work methods (casework, group work and community organization); social work as a career objective; social work practice; availability of employment and qualifications necessary.

301 Theories of Social Behavior (3)
Prerequisite: Sociology 101 or consent of instructor. The main schools of sociological thought, both European and American. Systems of theory, methodology of theorists, cultural change and social institutions.

302 Social Research Methods (3)
Prerequisite: Sociology 101 or consent of instructor. Topics include: research design, methods of gathering data, the role of theory in research, sampling methods and problems, data processing and analysis.

303 Statistics for the Social Sciences (3)
Prerequisites: Sociology 101 and 302, or consent of instructor. The techniques for the elementary statistical analysis of social data. (2 hours lecture, 2 hours activity)

305 Techniques of Social Welfare (3)
Prerequisite: Sociology 101 and 300 or consent of instructor. Methods and theories underlying social work practice. History, values and philosophy of the profession. Methods and skills. Casework, issues and trends in social work practice.

308 Writing for Sociology Students (3)
Prerequisite: Sociology 101 or consent of instructor. Composition, sources of information and sociological writing for different audiences. Satisfies the classroom portion of the upper-division writing requirement for sociology majors.

331X Social Research Methods (6)
Prerequisite: Sociology 101 or consent of instructor. The content of Sociology 302, 303 will be integrated. Students may take the course as a six-unit, one-semester course or as two consecutive courses of three units each. The content of this course is the same as Sociology 302, 303.

333 Sociology of Aging (3)
Prerequisite: Sociology 101 or consent of instructor. Analysis of population age structure; theories of aging; aging in family, economic, political, religious, educational, leisure/esthetic institutions. Aging and ethnicity. Social policy and the future of aging.

341 Social Interaction (3)
Prerequisite: Sociology 101 or consent of instructor. The social and sociopsychological dimensions of group behavior and the socialization of the individual. Social interaction and its impact on the individual and personality formation.

343 Program Evaluation (3)
Prerequisite: Sociology 101 or Psychology 101 and a course in statistics or methods or consent of instructor. Evaluation designs and problems, goal definition and operationalization, measurement, sampling, data analysis techniques and the politics of evaluation. (2 hours lecture; 2 hours activity) (Same as Psychology 343)

345 Sociology of Communication (3)
Prerequisite: Sociology 101 or consent of instructor. The social processes involved in communicating with symbols—verbal, visual and "body-language"—in interpersonal settings and the mass media.

348 Collective Behavior (3)
Prerequisite: Sociology 101 or consent of instructor. Characteristics of crowds, mobs, publics. Analysis of social movements and revolutions, their relation to social unrest and their role in developing and changing social organization.

350 Social Relationships and Emotions (3)
Prerequisite: Sociology 101 or consent of instructor. Consideration of social relationships emphasizing emotional bonds as the primary integrating force, including interactions between emotions and relationships.

360 Human Ecology: Problems and Solutions (3)
Prerequisite: Sociology 101 or consent of instructor. Interaction between human populations and their environments in the context of functional interdependence involving population, environment, organization and technology. Examination of causes, consequences and solutions to modern day major environmental problems.

361 Population Problems (3)
Prerequisite: Sociology 101 or consent of instructor. Population composition, growth and movement. Social factors affecting birth rates, death rates and migration. The population of the United States and selected areas of the world.

371 Urban Sociology (3)
Prerequisite: Sociology 101 or consent of instructor. The population and ecology, patterns of growth, institutions, characteristic social interaction, values and problems of the urban community.

372 Social Futures (3)
Prerequisite: Sociology 101 or consent of instructor. The tools for projecting future probabilities and possibilities. The broad social and moral implications of scientific and technological advances. Procedures and consequences of social design.

385 Family Violence (3)
Prerequisite: Sociology 101 or consent of instructor. For professions dealing with victims and/or perpetrators of family violence. Explores causes, intervention and prevention of all types of abuse: child, sibling, spouse, and parent. Examines theories, research findings and practical field application.

400 Sociological Internship (1-3)
Prerequisite: Sociology 101 or consent of instructor. Supervised field experience permitting application of relevant sociological material in practical settings.

404 Biosociology (3)
Prerequisite: Sociology 101 or consent of instructor. Multimedia inquiry into nature and future of social life. Differences among human and animal societies. Violence and aggression, territoriality and dominance, love and sex, right to life.

407 Women in Contemporary Society (3)
Prerequisite: Sociology 101 or consent of instructor. Women in American society. Sex role socialization, sexism in institutions, labor force participation, female health and sexuality.

408 Sexual Abuse in American Society (3)
Prerequisite: Sociology 101, 466 or consent of instructor. Sociological examination of sexual victimization and their consequences. Patterns of forcible rape, sexual abuse of children, effects of sexual abuse on victims and abusers, and responses of various social groups to sexual victimization are presented.

411 Criminology (3)
Prerequisite: Sociology 101 or consent of instructor. The extent, causes and control of criminal behavior. The criminal law, causal factors and theories, correctional institutions, probation and parole, and preventive efforts.

413 Juvenile Delinquency (3)
Prerequisite: Sociology 101 or consent of instructor. Juvenile delinquency as a social problem. Sociological study of the causes of delinquent behavior, and programs of control, treatment and prevention.

414 Sociology of Public Health (3)
Prerequisite: Sociology 101 or consent of instructor. The social and organizational context of health care in the American community: social forces, processes and relationships which influence or determine the nature of health service.

415 Sociology of Corrections (3)
Prerequisite: Sociology 101 or Sociology 411 or 413 or consent of instructor. Current problems and programs in probation, parole and correctional institutions. For students planning careers in corrections.

416 Sociology of Alcoholism (4)
Prerequisite: Sociology 101 or consent of instructor. Sociological analysis of alcoholism. The socio-emotional causes and consequences of this type of drug addiction. (3 hours seminar; 2 hours activity)

418 Microsociology (3)
Prerequisite: Sociology 101 or consent of instructor. Small-scale environments. Face-to-face interaction from a variety of sociological perspectives through participant-observation, videotaping and audiotaping.

419 Delinquency Corrections (4)
Prerequisites: Sociology 101 and 413 or consent of instructor. Extension of Sociology 413. Field experience in agencies dealing with juvenile delinquency. Sociological analysis of juvenile delinquency. Correctional facility as social organization and institution. (2 hours seminar; 4 hours activity)

431 Minority Group Relations (3)
Prerequisite: Sociology 101 or consent of instructor. Examines the development and current conditions of minority/majority relations through study of social, political and economic causes and consequences of prejudice and discrimination. Evolutionary and revolutionary movements for change will be studied.

433 Aging and Social Services (4)
Prerequisites: Sociology 101 and 333 or consent of instructor. Extension of Sociology 333 requiring field experience in services to older adults. Social problems of aging. Strategies of intervention and barriers to service utilization. (2 hours seminar; 4 hours activity)

436 Social Stratification (3)
Prerequisite: Sociology 101 or consent of instructor. Social class structures and their functions. Styles of life; determinants of class status; vertical social mobility; change in class systems.

438 Sociology of Disability and Rehabilitation (3)
Prerequisites: Sociology 101 or Special Education 463 and 464 or consent of instructor. Sociological analysis of social processes in the creation, definition, treatment and rehabilitation of selected handicaps. Effects of disabilities on social interaction, social roles, stigma and definition of self.

442 Small Groups (3)
Prerequisites: Sociology 101 or consent of instructor. Theories, methodology, and studies in small group research. Communication channels, coalition formation, group cohesion, leadership and conformity in groups.

446 Aging and Sexuality (3)
Prerequisite: Sociology 101 or consent of instructor. Impact of bio-psycho-social dynamics of aging on sexuality and affectual dimensions of marriage in later years; explicit forms and process of sexual expression in old age; singlehood, widowhood, homosexuality; sexuality in institutionalized elderly.

450 Sociology of Sex Roles (3)
Prerequisite: Sociology 101 or consent of instructor. The effect of traditional and nontraditional sexual stereotypes on attitudes and behavior within the family, the educational system, the economic system and the legal system.

451 Sociology of the Family (3)
Prerequisite: Sociology 101 or consent of instructor. The family as a social institution. Historical and cross-cultural perspectives; social change affecting marriage and the family; analysis of American courtship and marriage patterns; the psychodynamics of family life.

452 The Sociology of Education (3)
Prerequisite: Sociology 101 or consent of instructor. Education as a social process and a social institution. The relationship between education as a social process and a social institution, between education and sociology, the social functions of education. The socialization process, the school and the community, and the school as a social institution.

453 Child in American Society (3)
Prerequisites: Sociology 101 or consent of instructor. The child's role in America peer group participation, sibling rivalry and sibling order. The societal attitudes toward the child's place in society.

455 Medical Sociology (3)
Prerequisite: Sociology 101 or consent of instructor and upper division standing. A sociological perspective for interpreting medicine and medical behavior.

456 Mental Illness (3)
Prerequisite: Sociology 101 or consent of instructor. Sociological analysis of the process of diagnosis, recognition, and treatment of mental illness.

458 Sociology of Religious Behavior (3)
Prerequisite: Sociology 101 or consent of instructor. Religious behavior examined by social science theories. Religious rituals/beliefs to cope with anxiety and powerlessness before natural forces and social structures and processes. Religion's contributions to individual identity, societal order and change. (Same as Religious Studies 458)

459 The Sociology of Marital Dissolution (3)
Prerequisite: Sociology 101 or consent of instructor. The social-psychological causes and consequences of voluntary marital dissolution (separation, divorce.) Topics include: the erosion of attachment, personal identity changes, changing and new relationships with others, starting over, dating again, sexuality changes, loneliness, anxieties.

460 Sociology of Death and Dying (3)
Prerequisite: Sociology 101 or consent of instructor. Dying as a social process; functions of bereavement behavior; the grief process; fear of death and dying; death related rituals, demographic aspects of mortality; American death acceptance-denial controversy.

463 Political Sociology (3)
Prerequisite: Sociology 101 or consent of instructor. Theoretical perspectives; nature of power and authority; social structure and political institutions; elites and decision making; social influences on political behavior; political movements.

465 Law and Society (3)
Prerequisite: Sociology 101 or consent of instructor. The law and lawyers in the context of human society. Law as formal social control, variations in legal systems, social change and selected areas of law, the legal profession.

466 Deviant Behavior (3)
Prerequisite: Sociology 101 or consent of instructor. Topics include: drug addiction, sexual deviance, delinquency, alcoholism, mental illness, and life style.

467 Sociology of Sport (3)
Prerequisite: Sociology 101 or consent of instructor. The nature, position, functions, and growing importance of sport in contemporary industrial society. The relationships between structure, variety, and extent of sport activity and other institutional sectors in society.

470 Sociology of Occupations (3)
Prerequisite: Sociology 101 or consent of instructor. Causes of unemployment; employment prospects; professions; labor unions and/or employee associations; and effects of work on the physical and mental health of workers.

473 Formal Organizations (3)
Prerequisite: Sociology 101 or consent of instructor. Schools, hospitals, industries, prisons and government industries. Self-actualization and alienation, human relations, communication, leadership, conflicts within and between organizations and impact on democratic institutions and social change.

477 Social Behavior (3)
Prerequisite: Sociology 101 or consent of instructor. The behavioristic approach of B. F. Skinner and exchange theory in small groups. Interaction, equality and inequality, personal attraction and deviance.

484 Using Computers in Sociology (3)
Prerequisites: Sociology 101, 302, 303, (331X) or consent of instructor. "Canned" statistical programs in data analysis. Research design and data preparation relevant to computer analysis.

495 Senior Seminar (3)
Prerequisite: Sociology 101 senior classification. Open to sociology majors who have had the upper division coursework in the area of the seminar. The seminar will depend upon the specialty and training of instructor. May be repeated for credit. Consult current class schedule for topics.

498 Seminar in the Sociology of Health Care Services Organizations (3)
Prerequisites: Sociology 101; 455 is recommended. The organization and problems of health service programs and institutions.

499 Independent Study (1-3)
Prerequisites: Sociology 101, at least 12 units of sociology and consent of instructor. An individual research project, either library or field. The student must enroll with an instructor whose recognized interests are in the area of the planned independent study. Conferences with the instructor as necessary and the work culminated in one or more papers. May be repeated for credit.

501 Seminar: Selected Topics in Societal Structure and Process (3)
Prerequisite: consent of instructor. Analysis of a specialization within the study of society such as: socialization and personality; deviance; social change; institutional structure and process. May be repeated for credit.

502A The Research Process (3)
Requires the completion of a research project including such elements as theory construction, hypotheses formation, sampling, survey construction, data collection and data analysis.

502B The Research Process (3)
Prerequisites: Sociology 502A. Problems of social research. Causal inferences, value bias and measurement, the construction of scales.

581 Advanced Theories of Social Behavior (3)
Prerequisites: Sociology 301 or equivalent or consent of instructor. The basic elements and key problems in constructing and evaluating sociological theories.

596 Community College Symposium (3–6)
Prerequisite: consent of adviser. Introductory sociology, social problems and marriage and the family; teaching preparation. Includes an oral exam.

597 Project: Agency Placement (3–6)
Prerequisite: consent of adviser. Twenty hours per week for one semester or 10 hours per week for two semesters. Choice limited by the availability of positions which meet the level of supervision and training for which credit may be given. Includes an oral exam conducted by a master's committee.

598 Thesis (3)
Prerequisites: acceptance as a candidate for the M.A. in Sociology, and approval of the topic. Individual research under supervision, reported in a thesis, and defended successfully in an oral examination conducted by a faculty committee.

599 Independent Graduate Research (1-3)
Prerequisite: consent of graduate adviser and instructor. Individual research on either a library or empirical project, with conferences with the instructor as necessary, culminating in one or more papers. May be repeated for credit.

DEPARTMENT OF SPEECH COMMUNICATION

FACULTY

Joyce Flocken
Department Chair

Ralph Beckett
Communicative Disorders Coordinator

Wayne Brockriede, Daniel Crary, Michael Davis, Robert Emry, George Enell, Robert Gass, Kaye Good, Lee Granell, Lucy Keele, Kurt Kitselman, Emmett Long, Max Nelson, Norman Page, Glyndon Riley, Arden Thorum, Richard Wiseman

The Department of Speech Communication offers the B.A. and M.A. degrees in Speech Communication and the B.A. and M.A. degrees in Communicative Disorders.

Course work in the Department of Speech Communication aims toward five goals: to discover the relationships between human communication and other modes of human interaction; to provide students with theoretical understandings and functional skills which enable them to affect and critically assess social processes; to improve the quality and availability of professional services within the realm of human communication; to assist the student's development of intellectual, social, and political maturity by applying the principles of individual and group communication; and to improve the quality of human interaction through better communication practices.

The major in speech communication for the bachelor of arts degree requires a minimum of 42 units, at least 27 of which must be in 300- and 400-level courses.

The major in communicative disorders for the bachelor of arts degree requires a minimum of 42 units, at least 36 of which must be in 300- and 400- level courses.

Course programs are planned to prepare students who seek: (1) a liberal arts emphasis in speech communication as a means for becoming intellectually independent citizens and consumers, (2) to become communication specialists in business or government, (3) to apply communication skills in the ministry, law, business or other areas in which effective communication is basic, (4) graduate study, (5) employment in schools, hospitals, clinics, community centers and private practice in communicative disorders.

Courses taken to fulfill major requirements in speech communication and communicative disorders may not be counted toward the general education requirements.

BACHELOR OF ARTS IN SPEECH COMMUNICATION

Lower-division requirements (9 units):

Speech Communication 200
Speech Communication 102
Speech Communication 235

Upper-division requirements:

Core Courses (18 units):
Speech Communication 300
Speech Communication 308
Speech Communication 324
Speech Communication 332 or 334
Speech Communication 335
Speech Communication 342

Concentration (9 units): three adviser-approved courses from among the following:
Speech Communication 320
Speech Communication 333
Speech Communication 415
Speech Communication 420
Speech Communication 425
Speech Communication 430
Speech Communication 438

Electives (6 units): adviser-approved electives in speech communication to complete the major.

SECONDARY SCHOOL TEACHING EMPHASIS IN LANGUAGE ARTS AREA (Single Subject Waiver Program)

Speech Communication: Speech Communication 100, Introduction to Human Communication (3) or Speech Communication 200, Human Communication (3), Speech Communication 102, Public Speaking (3); Speech Communication 138, Forensics (2); Speech Communication 235, Essentials of Argumentation and Debate (3); Speech Communication 300, Introduction to Research in Speech Communication (3); Speech Communication 324, Small Group Communication (3); Speech Communication 332, Processes of Social Influence (3) *or* Speech Communication 334, Persuasive Speaking (3); Speech Communication 335, Advanced Argumentation (3); Speech Communication 338, Intercollegiate Forensics (2); Speech Communication 342, Introduction to Communicative Disorders (3); Speech Communication 415, Interpersonal Communication (3); Speech Communication 420, Communication Theory (3); Speech Communication 430, Classical Rhetorical Theory (3)

English: English 101, Beginning College Writing (3); English 300, Analysis of Literary Form (3); English 302, Introduction to the English Language (3) or English 303, The Structure of Modern English (3); English 311, Masters of British Literature to 1760 (3); English 322, American Literature from Twain to the Moderns (3)

Theatre: Theatre 110, Introduction to Oral Interpretation (3) or Theatre 414, Readers Theatre (3)

Communications: Communications 100, Introduction to Communications (3)

This single-subject waiver program has been approved by The Commission for Teacher Preparation and Licensing through December 31, 1983. Students wishing to pursue a single-subject waiver after that date should contact the Department office for further information.

BACHELOR OF ARTS IN COMMUNICATIVE DISORDERS

Lower-division requirement:

Speech Communication 102

Upper-division requirements:

Speech Communication 300
Speech Communication 324 or 332 or 334
Speech Communication 341
Speech Communication 342

Speech Communication 343 (or Psychology 321) and 344
Speech Communication 441 and 444
Speech Communication 451 and 452
Speech Communication 463
Additional selection from the generic program (See III below) to complete 42 units

PROGRAM LEADING TO THE CLINICAL REHABILITATIVE SERVICES CREDENTIAL

This credential is awarded by the State Department of Education and requires the following:

I. B.A. degree—major in communicative disorders (as outlined above) or equivalent preparation as approved by the department admissions committee. Electives to be selected from the generic program (see III below).

II. Admission to the graduate program in communicative disorders.

III. Generic program and advanced specialization program in speech, language and hearing disorders will include but not be limited to the following:

Speech Communication 403 Speech/Language Development (3)
Speech Communication 443 Voice Disorders and Cleft Palate (3)
Speech Communication 451 Diagnostic Methods in Communicative Disorders (3)
Speech Communication 452 Therapeutic Procedures in Communicative Disorders (3)
Speech Communication 453 The Speech/Language and Hearing Clinician as a Counselor (3)
Speech Communication 464 Audiometry (3)
Speech Communication 465 Introduction to Aural Rehabilitation (3)
Speech Communication 542 Neurophysiologic Basis of Speech and Language (3)
Speech Communication 577 Childhood Language Disorders (3)
Six units of a communicative disorders seminar from among Speech Communication 571, 573, 574, 575

Related Areas:
Special Ed 371 Exceptional Individual (3)
Psychology 361 Developmental Psychology (3)
Linguistics 402 Advanced Phonetics (3) or
Linguistics 406 Descriptive Linguistics (3)

Clinical Practice and Public School Practicum
Speech Communication 458 Basic Clinical Practice (3)
Speech Communication 558 Intermediate Clinical Practice (2)
Speech Communication 559A Advanced Clinical Practice (2)
Speech Communication 489 Public School Practicum in Communicative Disorders (4)
Speech Communication 490 Speech and Hearing Service in the Schools (2)

CLINICAL REHABILITATIVE SERVICES CREDENTIAL WITH SPECIAL AUTHORIZATION IN SEVERE DISORDERS OF LANGUAGE

I. Completion of all requirements for clinical rehabilitative services credential (see above)

II. Completion of the following:
Reading 480, the Teaching of Reading (4)
Special Education 465A, Exceptionality: Curriculum and Methods for the Learning Handicapped (4)
Speech Communication 410, Perceptual and Cognitive Problems of the Severe Language Handicapped Child (3)
Additional public school practicum in severe disorders of language classroom (minimum of 100 hours)

MINOR IN SPEECH COMMUNICATION

Those who wish a minor in speech communication must complete 21 units approved by an adviser in the Department of Speech Communication.

MASTER OF ARTS IN COMMUNICATIVE DISORDERS
MASTER OF ARTS IN SPEECH COMMUNICATION

See "Graduate Programs."

SPEECH COMMUNICATION COURSES

100 Introduction to Human Communication (3)
Process variables crucial to the outcome of communication transactions. Purposes and impact of communication, attitude formation, cognitive message elements, and affective message elements. Participation in research projects.

102 Public Speaking (3)
Theory and presentation of public speeches, including an analysis of determinants of comprehension and attitude formation; selection and organization of speech materials, development of delivery skills, and evaluation of message effectiveness. Student presentations required. Participation in research projects.

138 Forensics (2)
Prerequisite: consent of instructor. Investigation and practice in the background, format procedures, and evaluation criteria of the various forensic events. Students must participate in at least two intercollegiate tournaments. May be repeated for credit. (More than 6 hours of classwork for each unit of credit)

200 Human Communication (3)
Theories and competencies in interpersonal, small group, public, organizational and intercultural communication. Variations in communication process across contexts is investigated.

235 Essentials of Argumentation and Debate (3)
Prerequisite: Speech Communication 100 or consent of instructor. Application of argumentation theory to debate as a means of oral decision-making in the public forum. Emphasizes types of reasoning, role and evaluation of supporting materials, argument constructs and refutation and cross-examination skills.

300 Introduction to Research in Speech Communication (3)
Prerequisite: Speech Communication 100 or 200, open only to speech communication majors. Understanding and using professional literature in speech communication and using that literature to generate a formal research paper. A passing grade fulfills the course requirement of the university upper division baccalaureate writing requirement for speech communication majors.

302 Introduction to Manual Communication (3)
Prerequisite: consent of instructor. The basic principles of manual communication and Pidgin sign language systems; fingerspelling and the development of basic sign language vocabulary in Sign English.

305 Liberal Studies in Communication Processes (3)
Introduction to interdisciplinary study and its relationship to communication theory. Nature of communication transactions in various contexts. No credit for speech communication majors.

308 Quantitative Research Methods (3)
Prerequisite: Speech Communication 100 or 200. Current perspectives in empirical research methodology in the discipline of Speech Communication. Experimental designs, common statistical tests, and consumer use of the computer as a research tool.

312 Intermediate Sign Language (3)
Prerequisite: Speech Communication 302 or consent of instructor. A review of basic sign language. Additional sign vocabulary acquisition and improvement of basic expressive and receptive skills in the simultaneous method of communication, utilizing traditional and SEE signs.

320 Intercultural Communication (3)
Prerequisite: Speech Communication 100. Communication problems that result when members of different cultures communicate. How interpersonal communication can overcome differences in cultures' perceptions of communication's functionality, value orientations, nonverbal behavior, language, epistemologies and rhetorics.

324 Small Group Communication (3)
Prerequisite: Speech Communication 100 or 200. Application of small group and interpersonal communication theory and behavioral research findings. Communication facilitation among individuals in task realization, including interpersonal needs, leadership, norms, roles, verbal and nonverbal messages, and group systems and procedures.

332 Processes of Social Influence (3)
Prerequisite: Speech Communication 100 or 200. Major theories of communication concerned with influence and persuasion in society. Communication effectiveness through strategic application of theory to affecting change and evaluating appeals for change by others.

333 Communication in Business and Industry (3)
Prerequisite: Speech Communication 100 or 200. Human behavior, structural demands and communication within organizations. Application of theory and behavioral research as a framework for generating managerial communication competencies such as interviewing, briefings, conference leadership, and intergroup coordination.

334 Persuasive Speaking (3)
Prerequisite: Speech Communication 102 or equivalent. The problems and techniques of a series of speeches directed toward a predetermined goal: progressive use of persuasive materials.

335 Advanced Argumentation (3)
Prerequisite: Speech Communication 235 or consent of instructor. Argument as applied to advocacy; logic and evidence as related to analysis of significant issues.

338 Intercollegiate Forensics (2)
Prerequisite: consent of instructor. Directed activity in debate and other forensic events. Participation in intercollegiate competition is required for credit. May be repeated for credit. (More than 6 hours of classwork for each unit of credit)

341 Introduction to Phonetics (3)
Prerequisite: Speech Communication 100 or 200, or consent of instructor. The analysis and classification of phonemes of American English; the use of the International Phonetic Alphabet; the various factors influencing articulation and pronunciation. Work in language laboratory.

342 Introduction to Communicative Disorders (3)
Prerequisite: Speech Communication 100 or 200, or consent of instructor. The subject matter and principles of communicative disorders, including the role of school personnel, classification of speech and hearing disorders. Observation, lecture, films and demonstrations.

343 Speech and Hearing Science, A (3)
Prerequisite: consent of instructor. The first course in speech and hearing science: normal embryology, basic neuroanatomy, basic neurophysiology, overview of the neurological basis of speech. (2 hours lecture, 3 hours laboratory)

344 Speech and Hearing Science, B (3)
Prerequisite: consent of instructor. Anatomy and physiology of the speech and hearing mechanisms; respiration, phonation, resonation, articulation and hearing. Normal functioning as a frame of reference for understanding disordered functioning. Laboratory experience.

402 Advanced Phonetics (3)
Prerequisite: Speech Communication 341 or consent of instructor. Analysis of human speech sound production and narrow transcription. Sounds beyond the range of American English. Taped materials and introduction to phonetics lab including spectrographic analysis. (Same as Linguistics 402)

403 Speech/Language Development (3)
Prerequisite: Speech Communication 100 or 200, or consent of instructor. Phonology, morphology, syntax, and semantics of speech and language development from birth through childhood. Meets the language and speech development and disorders requirement for specialized preparation to serve as teachers of exceptional children. (Same as Linguistics 403)

410 Perceptual and Cognitive Problems of the Severe Language Handicapped Child (3)
Prerequisite: senior standing in communicative disorders or consent of instructor. Philosophies and strategies used in training severe language handicapped children to have competencies in basic reading, language, and numerical concepts. Classroom management.

415 Interpersonal Communication Theory (3)
Prerequisite: Speech Communication 100 or 200, 308, 324, 420 or consent of instructor. The behavioral and humanistic approaches to theories of interpersonal communication. Functions of communication which influence interpersonal relationships, including communicator characteristics, information exchange, situational demands and interpersonal evaluations.

420 Communication Theory (3)
Prerequisites: Speech Communication 300, 308 and 324, or graduate standing, or consent of instructor. Theoretical models and systems to describe, integrate, and evaluate the evolution of communication theory and measurement procedures utilized in the assessment of communication outcomes in theory generation.

425 Organizational Communication Dynamics (3)
Prerequisites: Speech Communication 308 and 333. The inter-relationships between management and communication theories. The microsystems and macrosystems within an organization are emphasized in terms of intrapersonal, interpersonal, small group and organizational communication theories.

430 Classical Rhetorical Theory (3)
Prerequisite: six units of upper division courses in communication theory and process to include SPCOM 300. Contributions of Greek and Roman rhetorical theorists, 4th century B.C. to 300 A.D. and practitioners of the art.

432 Contemporary Rhetorical Theory (3)
Prerequisites: six units of upper-division courses in communication theory and process to include SPCOM 300. The nature of rhetorical theory in the 20th century.

437 Internship: Speech Communication (3)
Prerequisites: any two of the following courses: Speech Communication 305, 324, 333, 420, 425 or consent of instructor. On-site involvement with communication frameworks as they function in ongoing organizational settings. Working in an organization and seminar activities. Application for internship must be submitted prior to enrollment.

438 Principles of Rhetorical Criticism (3)
Prerequisite: six units of upper-division communication theory and process courses to include SPCOM 300. Explanation and evaluation of rhetorical experience. Historical modes of criticism, issues in rhetorical criticism, criticism in various contexts, and experiences in criticism.

441 Dysarticulation and Stuttering (3)
Prerequisites: Speech Communication 300 or graduate standing, 341, 342, 344, or consent of the instructor. Dysarticulation, and stuttering studied with emphasis on descriptive and treatment principles which emerge from current theory and practice.

443 Voice Disorders and Cleft Palate (3)
Prerequisites: Speech Communication 300 or graduate standing, 341, 342, 344, and either 343 or Psych 321, or consent of instructor. Communicative disorders relative to laryngeal and oromaxillofacial dysfunctions or pathology. Etiologic, diagnostic and management aspects.

444 Childhood Language Disorders and Adult Aphasia (3)
Prerequisites: Speech Communication 300 or graduate standing, and Speech Communication 341, 342, 344 and 403, and either 343 or Psych 321. Communicative disorders involving language impairments in children and adults. Emphasis on relationship of language impairments to cognition, central nervous system operations and environmental influences.

451 Diagnostic Methods in Communicative Disorders (3)
Prerequisites: Speech Communication 300, 341, 342, 344, and 441, and either 343 or Psych 321. Lecture and supervised demonstrations; techniques and procedures for the assessment of communicative disorders.

452 Therapeutic Procedures in Communicative Disorders (3)
Prerequisites: Speech Communication 300, 341, 342, 344, 441, and either 343 or Psych 321. Lecture and supervised demonstrations; techniques and procedures for the treatment of communicative disorders.

453 The Speech/Language and Hearing Clinician as a Counselor (3)
Prerequisites: Speech Communication 342, 441, 463, or consent of instructor. The dynamics of interviewing, conferencing and counseling. Effective use of numerous communication approaches in parent, family and client counseling; increased self-awareness; the guidance of those exhibiting communication disorders; and appropriate referral sources.

458 Basic Clinical Practice: Communicative Disorders (3)
Prerequisites: Speech Communication 341, 342, 344, 441, 451, 452, and either 343 or Psych 321; senior or graduate standing and approved application prior to semester of practicum. The application of diagnostic and therapeutic care to children and adults exhibiting communicative disorders.

463 Audiology (3)
Prerequisites: Speech Communication 344, and either 343 or Psych 321, or consent of instructor. The nature of auditory functioning, physical and psychological. Anatomy, pathology and treatment. Rehabilitative methods, facilities and equipment. Partially fulfills the state requirements for public school audiometrist.

464 Audiometry (3)
Prerequisite: Speech Communication 463 or consent of instructor. Equipment, methods and procedures used in assessing air conduction and bone conduction auditory thresholds in a variety of situations. Partially fulfills the state requirements for public school audiometrist.

465 Aural Rehabilitation (3)
Prerequisites: Speech Communication 341, 463, or consent of instructor. Historical background of lipreading, methods used in the visual reading of speech, and auditory training techniques used in the rehabilitation of the aurally handicapped.

468 Audiology Practicum (1)
Prerequisites: Speech Communication 463, 464, 465 and approved application prior to semester of enrollment in practicum. Audiometric evaluations including pure tone testing, hearing aid evaluations, impedance audiometry and report writing. Provides clinical clock hours in audiology.

489 Public School Practicum in Communicative Disorders (4)
Prerequisites: Speech Communication 559A, concurrent registration in Speech Communication 490, application approved prior to semester of practicum, 165 clock hours of clinical practice and graduate status. Meets the directed teaching requirements for the Clinical Rehabilitative Services Credential.

490 Seminar: Speech and Hearing Service in the Schools (2)
Prerequisite: consent of instructor. Problems and challenges unique to the student clinician in the organization and managment of the speech and hearing program in the school. The clinician's role; planning, scheduling, case finding, treatment program reporting and other responsibilities.

499 Independent Study (1-3)
Open to upper division students in speech communication only with signed consent form from department chair. May be repeated for credit.

500 Seminar in Speech Research (3)
Prerequisites: Speech Communication 300 or equivalent; admission to M.A. program. Research design and methods used in historical, descriptive and experimental research in speech communication.

510 Seminar in Interpersonal and Relational Communication (3)
Prerequisites: Speech Communication 324, 415 and 420 or consent of instructor. Theoretical and empirical examination of interpersonal and relational communication. Generation of theoretical frameworks and/or heuristic models of concepts and process under investigation.

520 Seminar in Group Communication (3)
Prerequisites: Speech Communication 324 and 420. Small group communication theory. Small group variables, methods and outcomes, and group process as a learning tool.

525 Seminar in Organizational Communication (3)
Prerequisites: Speech Communication 324, 420, and 425, or consent of instructor. Theoretical postulates concerning managerial and organizational communication. Research findings and case studies relating to communication determinants and organizational effectiveness. Communicative relationships among individuals, the work unit, and the organization.

535 Seminar in Advocacy (3)
Prerequisite: Speech Communication 335. Texts and periodic literature relating to argumentation and advocatory discourse.

536 Seminar in Rhetorical Theory (3)
Prerequisite: Speech Communication 430. Rhetorical issues and treatises chosen to represent complementary or contrasting systems of rhetoric.

542 Neurophysiologic Bases of Speech and Language (3)
Prerequisites: 343, 344 and 444, or consent of instructor. Mechanisms of the central and peripheral nervous systems underlying normal speech and language behavior.

543 Seminar in Communicative Disorders: Neuropathologies (3)
Prerequisites: Speech Communication 441, 443 and 542 or consent of instructor; admission to M.A. program. Problems in neuropathologies. Investigation of experimental and clinical research.

544 Seminar in Communicative Disorders: Aphasia (3)
Prerequisites: Speech Communication 542, 543 or consent of instructor; admission to M.A. program. The etiology of aphasia, dysarthria, apraxia. Diagnosis of communication problems arising from brain-damage. Guest lecturers in aphasia, dysarthria, apraxia, stroke research, internal medicine.

558 Intermediate Clinical Practice: Communicative Disorders (2)
Prerequisite: Speech Communication 458 or equivalent, 465, and approved application prior to semester of practicum. Intermediate clinical practicum in the on-campus Speech, Language and Hearing Clinics for children and adults. Skills and procedures in diagnosis, therapy, report writing and record keeping.

559A Advanced Clinical Practice: Communicative Disorders (2)
Prerequisites: Speech Communication 542, 558, one other Seminar in Communicative Disorders, and approved application submitted prior to semester of practicum. Advanced clinical practice under supervision with children and adults. Off-campus program in hospitals, clinics, centers and other areas of rehabilitation. All aspects of communicative disorders, speech, hearing and language.

559B Advanced Clinical Practice: Communicative Disorders (2)
Prerequisite: Speech Communication 559A, approved application prior to semester of practicum, or consent of instructor. Advanced clinical practice, under supervision, in off-campus medical, clinical and community center facilities. All aspects of communicative disorders, speech, hearing, and language.

570 Seminar in Communicative Disorders: Oromaxillofacial Dysfunction (3)
Prerequisites: Speech Communication 441 and 443; admission to M.A. program. Anatomical and physiological classification systems and diagnostic, therapeutic, and research considerations.

571 Seminar in Communicative Disorders: Stuttering (3)
Prerequisites: Speech Communication 441 and 444; admission to M.A. program. Problems in stuttering: investigation of experimental and clinical research.

573 Seminar in Communicative Disorders: Voice (3)
Prerequisites: Speech Communication 441, 443, 542 or consent of instructor; admission to M.A. program. Problems of voice: investigation of experimental and clinical research.

574 Seminar in Communicative Disorders: Articulation (3)
Prerequisites: Speech Communication 441, 443, 542 or consent of instructor; admission to M.A. program. Problems of articulation: investigation of experimental and clinical research.

575 Seminar in Communicative Disorders: Developmental Disabilities (3)
Prerequisites: Speech Communication 441, 444, 542 or consent of instructor; admission to M.A. program. Classifications, etiologies, diagnostic and management programs including sociologic, vocational and psychologic factors and communicative disorders of the mentally retarded population.

577 Seminar in Communicative Disorders: Childhood Language Disorders (3)
Prerequisite: Speech Communication 542. Methods of describing and managing language pathologies in children; lecture, case presentation, and review of current literature.

596 Directed Graduate Research (3)
Individual research study, under the supervision of the chair of the student's advisory committee.

598A,B,C Thesis (2,2,2)
Prerequisite: Speech Communication 500. The selection, investigation, and written presentation of a selected problem in the field of speech.

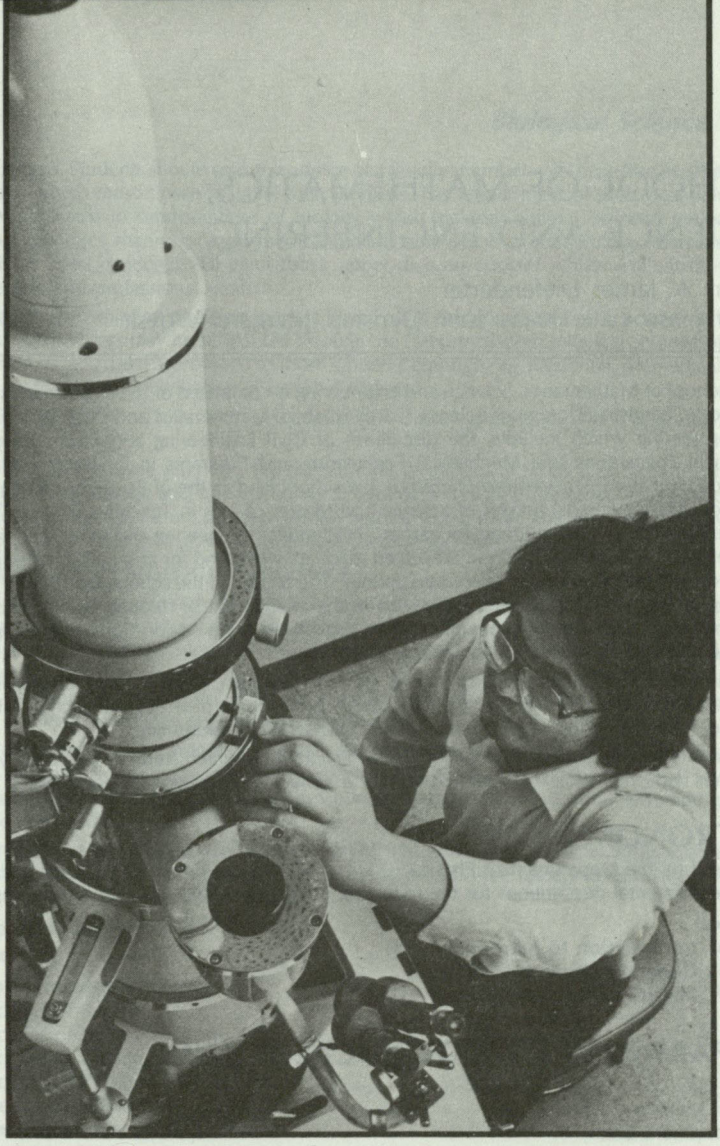
599 Independent Graduate Research (1-3)
Open to graduate students only with signed consent form from department chair. May be repeated for credit.

SPEECH COMMUNICATION EDUCATION COURSES

442 Teaching Speech in the Secondary School (3)
Prerequisite: admission to teacher education. Objectives, methods, and materials for teaching speech in secondary schools. Required, before student teaching, of students presenting majors in speech for the standard teaching credential.

449A Student Teaching in Speech Communication in the Secondary School (10)
See description under Division of Teacher Education.

449B Student Teaching Seminar (2)
See description under Division of Teacher Education.



MATHEMATICS SCIENCE AND ENGINEERING

SCHOOL OF MATHEMATICS, SCIENCE AND ENGINEERING

Dean: A. James Diefenderfer
Acting Associate Deans: John Olmsted, Margaret Woyski

The School of Mathematics, Science and Engineering is comprised of the Departments of Biological Science, Chemistry, Computer Science, Earth Science, Mathematics and Physics and the Division of Engineering which includes the disciplines of Civil Engineering and Engineering Mechanics, Electrical Engineering and Mechanical Engineering and Programs in Environmental Studies and Science Education. The degrees offered by the school lead to the of Bachelor of Arts, Bachelor of Science, Master of Arts, Master of Science and Master of Arts in Teaching Science. The curricula are designed to prepare students for careers in scientific, engineering and other technical fields, for further study and specialization in advanced graduate work, and for entry into professional schools of medicine and other health-related disciplines. The faculty of the school are actively involved not only in instruction and scholarship but also in the advisement of students in the school on topics relating to the planning of career and program goals. Cooperative education internship programs are available in each of the school's departments.

A Mathematics, Science and Engineering Advisory Council, composed of distinguished leaders representing industry, education and the health professions, provides the school with advice on matters related to curriculum, career options and service opportunities.

The school sponsors the Industrial Associates Program by which students and faculty are brought together with their industrial counterparts for a variety of professional opportunities.

ASTRONOMY

(Offered by the Department of Physics)
See departmental descriptions for the following courses:

Physics

200 Introduction to Astronomy (4)
350 General Astronomy (4)
414 Physics of the Solar System (3)

DEPARTMENT OF BIOLOGICAL SCIENCE

FACULTY
Steven Murray
Department Chair

Phillip Adams, Natalie Barish, L. Jack Bradshaw, Bayard Brattstrom, Jack Burk, Jewel Plummer Cobb,* Calvin Davenport, David Fromson, Kenneth Goodhue-McWilliams, Ted Hanes, Michael Horn, C. Eugene Jones, Judy Kandel, Robert Koch, Charles Lambert, Miles McCarthy,* Lon McClanahan, William Presch, Marvin Rosenberg, Alvin Rothman, Roger Seapy, James Smith, G. Cleve Turner, David Walkington,* Joel Weintraub

The Department of Biological Science offers a program leading to the Bachelor of Arts in Biological Science as preparation for entrance into graduate and professional schools, teaching, and careers in industry and government service.

It is the conviction of the faculty in biological science that the purposes of all these students can best be served by building their curricula on a core of courses fundamental to the science of biology.

Biology majors shall select one of the major categories within biology and take the corresponding core courses. The two major categories are: (1) ecological and organismic biology, and (2) molecular/cellular and physiological biology.

In considering the curricula beyond these cores of subjects, the faculty has agreed that the interest and goals of individual students can best be satisfied through individual advising rather than through

* University administrative officer

prescribed programs. Students should seek the advice of a faculty member with expertise in subdisciplines of biology which most closely parallel their interests. The Department of Biological Science has established curricula in subdisciplines of biology which include: botany, cell and molecular biology, ecology, genetics, marine biology, medical biology, microbiology and zoology. After discussion with their advisers, students will elect those upper-division courses which will satisfy their individual interests and professional goals.

All biology majors are expected to obtain adviser approval of their programs each academic year. Appointments with advisers may be scheduled through the Department of Biological Science office. Health professions advisement is provided to those students emphasizing predental, premedical and preoptometry or to those concentrating in medical biology.

Internships: Biol 490, Biological Internship, provides practical work experience which integrates with classroom studies.

In addition to the usual course offerings, the Department of Biological Science participates in the Institute for Molecular Biology and two consortial programs with other California State University campuses. They are the Southern California Ocean Studies Consortium and the California Desert Studies Consortium at Soda Springs which are described under "Research Organizations."

BACHELOR OF ARTS IN BIOLOGICAL SCIENCE

A total of 124 units including general education, 39 units in *biology courses,* 21 units in the core and 18 units of upper-division electives, the upper-division writing requirement and *supporting courses* in physical sciences and mathematics are required for completion of the B.A. in Biological Science. The *supporting courses* must include one year of general college chemistry including qualitative analysis with laboratory, two semesters of organic chemistry with laboratory, one semester of college calculus, and one year of college physics with laboratory.†

To qualify for a baccalaureate degree in biological science, students must have a 2.0 overall average in all required supporting courses. No credit toward the major will be allowed for biological science courses in which a grade of D or F is obtained. Courses taken under the Credit/No Credit grade option may not be applied towards the major.

Upper division students will be permitted to enroll in Biol 480, Advanced Topics in Biology, and Biol 499, Independent Laboratory Study for a total of six units. All full-time upper-division students are expected to attend the departmental seminars.

Core Requirements for the Major

Major Category I

Ecological and Organismic Biology		*Units*	*Total Units*
141	Principles of Botany	2	
141L	Principles of Botany Laboratory*	2	
161	Principles of Zoology	2	
161L	Principles of Zoology Laboratory*	2	
302	General Microbiology	2	
302L	General Microbiology Laboratory*	2	
312	Genetics	3	
315	Cell and Molecular Biology	3	
316	Principles of Ecology	3	
316L	Principles of Ecology Laboratory	2	
			21

Major Category II

Molecular/Cellular and Physiological Biology		
141	Principles of Botany	2
141L	Principles of Botany Laboratory **	2
161	Principles of Zoology	2
161L	Principles of Zoology Laboratory **	2
302	General Microbiology	2
302L	General Microbiology Laboratory	

† Those students seeking careers in medicine should take a year of calculus, quantitative chemistry and laboratory. Those students who wish to earn a doctoral degree should consider, in addition, a modern foreign language or advanced courses in computational sciences.

* Take two of three laboratories from 141L, 161L or 302L for Category I.

** Take either laboratory 141L or 161L for Category II.

		2
312	Genetics	3
315	Cell and Molecular Biology	3
315L	Cell and Molecular Laboratory	2
316	Principles of Ecology	3
		21

Electives: 18 units of upper-division courses, must include four units (12 hours) of laboratory and/or fieldwork 18

39

Students are strongly advised to complete Biol 141 and 161 as soon as possible and to complete Biol 302 and 312 prior to Biol 315.

Supporting Course Requirements for the Major *Units*

Chem 120A,B General Chemistry	10
Chem 301A,B and Chem 302 Organic Chemistry	8
Physics 211A,B and Physics 212A,B Elementary Physics	8
Math 130 A Short Course in Calculus *or* Math 150A Analytic Geometry and Calculus †	4
	30

Suggested Program for the B.A. in Biological Science

First Year

Semester 1

Biol 141 Principles of Botany *or* Biol 161 Principles of Zoology	2
Biol 141L Principles of Botany Laboratory * ** *or* Biol 161L Principles of Zoology Laboratory	0–2
Chem 120A General Chemistry	5
Math 130A A short Course in Calculus *or* Math 150A Analytic Geometry and Calculus †	4
General education course	3
	14–16

Semester 2

Biol 141 Principles of Botany *or* Biol 161 Principles of Zoology	2
Biol 141L Principles of Botany Laboratory * ** *or* Biol 161L Principles of Zoology Laboratory	0–2
Chem 120B General Chemistry	5
Math 150B Analytic Geometry and Calculus †	4
General education course	3
	14–16

Second Year

Semester 3

Chem 301A Organic Chemistry	3
Biol 302 General Microbiology *or* Biol 312 Genetics	2–3
Biol 302L General Microbiology Laboratory *	0–2
General education courses	7
	12–17

Semester 4

Chem 301B Organic Chemistry, 302 Organic Chemistry Laboratory	5
Biol 302 General Microbiology *or*	

* Take two of three laboratories from 141L, 161L or 302L for Category I.

** Take either laboratory 141L or 161L for Category II.

† Those students seeking careers in medicine should take a year of calculus, quantitative chemistry and laboratory. Those students who wish to earn a doctoral degree should consider, in addition, a modern foreign language or advanced courses in computational sciences.

Biol 312 Genetics	2–3
Biol 302L General Microbiology Laboratory *	0–2
General education courses	7
	14–17

Third Year
Semester 5

Physics 211A, 212A Elementary Physics	4
Biol 315 Cell and Molecular Biology *or*	
Biol 316 Principles of Ecology	3
Biol 315L Cell and Molecular Biology Laboratory *** *or*	
Biol 316L Principles of Ecology Laboratory	0–2
Electives +	4
General education course	3
	14–16

Semester 6

Physics 211B, 212B Elementary Physics	4
Biol 315 Cell and Molecular Biology *or*	
Biol 316 Principles of Ecology	3
Biol 315L Cell and Molecular Biology Laboratory *** *or*	
Biol 316L Principles of Ecology Laboratory	0–2
Electives +	4
General education course	3
	14–16

Fourth Year
Semester 7

Electives +	15

Semester 8

Electives +	15

Teaching Credentials Requirements

Students who plan to enter the science education program for secondary school science teaching credentials must take a prescribed program of courses, which includes all of the requirements for the Bachelor of Arts in Biological Science except for a reduction of 8 of the 18 units of biology electives. In addition, the student must take the following courses: Earth Science 101, Education-TE 440F, Education-TE 440R, Education-TE 440S, Science Education 312, Science Education 442, Science Education 449A, Science Education 449B.

Students completing the prescribed program in biological science for teachers are eligible to teach in the physical sciences as well.

MASTER OF ARTS IN BIOLOGY

See "Graduate Programs."

BIOLOGICAL SCIENCE COURSES

101 Elements of Biology (3)

Living organisms and the characteristics of the natural environment. (3 hours lecture)

101L Elements of Biology Laboratory (1)

Prerequisite or corequisite: Biol 101. Laboratory experiments demonstrating the principles presented in the lecture course. Surveys of the plant and animal kingdoms, cell structure and function, physiology, genetics, evolution and ecology. One or more field trips required. (3 hours laboratory)

---

* Take two of three laboratories from 141L, 161L or 302L for Category I.
** Take either laboratory 141L or 161L for Category II.
*** Take 316L for Category I, 315L for Category II.
\+ Awarding of the B.A. in Biological Science requires that 40 units must be upper division, of which 18 units must be in biology.

102 Crisis Biology (3)
Biological knowledge for understanding current environmental and health problems. The ecology of humans and biological problems. For the non-science major. (3 hours lecture)

113
(See Science 113, Chemical Basis of Life)

113L
(See Science 113L, Chemical Basis of Life Laboratory)

141 Principles of Botany (2)
The plant kingdom. The dynamic nature of plants as revealed by their anatomy, morphology, physiology, evolution, and ecology. Required of all biological science majors. (2 hours lecture)

141L Principles of Botany Laboratory (2)
Corequisite: Biol 141. A survey of the structure, function, classification, phylogeny, physiology and ecology of plants. (6 hours laboratory)

149 Arboretum/Greenhouse Techniques (1)
Experience in a working greenhouse and arboretum. The use of horticultural techniques on a diverse range of plant materials including cacti and succulents, outdoor and indoor plants, carnivorous plants, etc. Credit-No Credit only. (3 hours laboratory)

161 Principles of Zoology (2)
The animal kingdom. Structure, classification, phylogeny, physiology, behavior and ecology of invertebrate and vertebrate animals. Required of all biological science majors. (2 hours lecture)

161L Principles of Zoology Laboratory (2)
Corequisite: Biol 161. A survey of representative invertebrate and vertebrate organisms to provide a practical study of the structure, function, classification, phylogeny, physiology, behavior and ecology of animals. (6 hours laboratory; 1 or more weekend field trips may be required)

302 General Microbiology (2)
Prerequisites: completion of lower division biology core courses and one year of college chemistry. Morphology, growth, and physiology of bacteria and other microorganisms, and microbial interactions with other organisms, including humans. Required of all biological science majors. (2 hours lecture)

302L General Microbiology Laboratory (2)
Corequisite: Biol 302. Introduction to microscopic, cultural and physiological methods of studying microorganisms, and their application and identification of microbial organisms. (6 hours laboratory)

306 Biology of Aging (3)
Prerequisite: Biol 101 or equivalent. Biological changes in cells, tissues, organs and the whole body associated with aging. Theories of aging will be discussed with primary emphasis on mammals. No credit toward biology major. (3 hours lecture)

308 Biological Illustration (3)
Prerequisite: one year of college biology. Line illustration and lettering used in preparation of biological drawings, charts and graphs for scientific publication. (1 hour lecture, 6 hours laboratory)

312 Genetics (3)
Prerequisite: one year of college biology or consent of instructor. The general principles and modern developments in the study of heredity. For biological science majors: nonmajors see Biol 313. To be taken prior to Biol 315. (3 hours lecture)

313 Human Genetics (3)
Prerequisite: one semester of college biology. Principles of heredity. Methods of analysis, interaction of genes and environment, and gene populations in humans. No credit toward biological science major. (3 hours lecture)

314 Human Issues in Genetics (1)
Prerequisite: one semester of college biology. Biological basis for decisions relating to detection and treatment of genetic defects, human and fetal research, and eugenics. Legal and ethical problems raised by such decisions. (3 hours lecture and discussion per week for 5 weeks)

315 Cell and Molecular Biology (3)
Prerequisites: one year college biology, Biol 312 and one semester organic chemistry. The cell and cell organelles including a study of cellular macromolecules, their synthesis, function and integration into organelles. Modern data-gathering techniques and instrumentation, organellar function, bioenergetics, protein synthesis and gene function at the molecular level. (3 hours lecture)

315L Cell and Molecular Biology Laboratory (2)
Corequisite: Biol 315. Laboratory exercises in cell and molecular biology to give the students experience in the analysis and characterization of cellular components and processes. (6 hours laboratory)

316 Principles of Ecology (3)
Prerequisite: one year of college biology or consent of instructor. Population, community and ecosystem ecology. Ecosystem function and contemporary environmental problems. (3 hours lecture)

316L Principles of Ecology Laboratory (2)
Corequisite: Biol 316. Laboratory and field activities designed to investigate the interrelationships of organisms and their environment at the population, community and ecosystem levels. (6 hours laboratory or fieldwork; 1 or more weekend field trips may be required)

319 Marine Biology (3)
Prerequisite: one semester of college biology or consent of instructor. Marine plants and animals and their habitats. Marine biology especially in the Southern California region. No credit toward biological science major. (3 hours lecture)

319L Marine Biology Laboratory (1)
Prerequisite: Biol 319, concurrent enrollment in 319, or consent of instructor. Laboratory analyses of marine plants and animals and their habitats. No credit toward biology major. (3 hours laboratory or fieldwork)

323 Biology of Sexually Transmitted Diseases (STD) (1)
Prerequisite: one semester of college level biology. The symptoms, diagnosis, treatment and control of a number of sexually transmitted diseases including gonorrhea, syphilis, herpes, chancroid and venereal warts are examined. (3 hours lecture per week for 5 weeks)

340 Field Botany (3)
Prerequisite: Biol 141, 141L, or equivalent, or consent of instructor. The native flora of Southern California. Identification techniques and factors which determine the distribution of species. (1 hour lecture, 3 hours laboratory, and 5 Saturday field trips required)

344 Survey of the Land Plants (4)
Prerequisite: one year of college biology or consent of instructor. A survey of the anatomical and morphological characteristics of the land plants as they relate to the evolutionary development and ecological strategies of these plants. (2 hours lecture, 6 hours laboratory)

352 Plants and Life (3)
Prerequisite: one semester of college biology or consent of instructor. Man's dependence upon and economic interest in plants throughout the world. The domestication of plants and the origin of agriculture. (3 hours lecture)

352L Plants and Life Laboratory (1)
Prerequisite: Biol 352, concurrent enrollment in 352, or consent of instructor. The manufacture and use of economically important plant derivatives. (3 hours laboratory)

353 Principles of Horticulture (2)
The study of cultivated plants including garden, house, ornamental and fruit plants; their propagation, care, and requirements. (2 hours lecture)

353L Principles of Horticulture Laboratory (1)
Prerequisite: Biol 353, concurrent enrollment in 353, or consent of instructor. The propagation and care of horticultural plants. (3 hours laboratory)

360 Biology of Human Sexuality (1)
The biology of the human reproductive system. Sexual differentiation, structure and function, fertility and infertility, coitus, childbirth, contraception and venereal disease. (3 hours lecture per week for 5 weeks)

361 Human Anatomy (4)
Prerequisite: one year of college biology or consent of instructor. A systems approach to the structure and function of the human body. For biology majors and related health sciences; students with zoology emphasis should take Biol 463. (2 hours lecture, 6 hours laboratory)

362 Human Physiology (4)
Prerequisite: one year of college biology and college chemistry or consent of instructor. The fundamental mechanisms of human physiology. For biology majors and related health sciences. Students with zoology emphasis should take Biol 468. (3 hours lecture, 3 hours laboratory)

401 Biogeography (3)
Prerequisite: one year of college biology or consent of instructor. Evolutionary patterns and mechanisms of distribution of plants and animals in the major habitats of the world. Current concepts and theories. (3 hours lecture)

404 Evolution (3)
Prerequisite: one semester of college biology or Biol 161 or consent of instructor. The history of evolutionary thought; origin of universe, earth and life; geological and paleontological history of the earth; evidences derived from comparative anatomy, embryology, genetics, zoogeography; mechanisms of evolution. (3 hours lecture)

404L Evolution Laboratory (1)
Prerequisite: Biol 404, concurrent enrollment in 404, or consent of instructor. Laboratory and field exercises designed to explore the problems, patterns and process of evolution. (3 hours laboratory)

405 Developmental Biology (3)
Prerequisites: Biol 315, 315L, or equivalent or consent of instructor. Either Biol 312 or 464 recommended. Molecular and cellular processes in the development of organisms such as oogenesis, fertilization, cytokinesis-morphogenetic movements, and nucleocytoplasmic interactions. (3 hours lecture.)

406 Biometry (4)
Prerequisites: Math 120, 130, or 150A; upper-division standing in biological sciences or consent of instructor. Experimental design, interpretation, and application of statistics to biological problems. (3 hours lecture, 3 hours laboratory)

407 Seminar in Human Sexuality (3)
Prerequisites: one semester in college biology and upper-division standing or consent of instructor. The biological-physiological bases of human sexuality as they relate to human sexual interaction and social change. (3 hours lecture/discussion)

410 General Cell Physiology (4)
Prerequisites: Biol 315 and 315L or consent of instructor. The cell environment, cell membranes, permeability, bioelectricity, mechanisms for intercellular and intracellular communication and cell motility. (2 hours lecture, 6 hours laboratory)

411 Photomicrography (3)
Prerequisites: upper-division standing and consent of instructor. Methods and techniques of photomicroscopy emphasizing a variety of subject materials and optical equipment. For students requiring skills in photomicrography for teaching and research. (1 hour lecture, 6 hours laboratory)

413 Advanced in Molecular Genetics (3)
Prerequisites: Biol 312, 315, 315L and Chem 301A,B. The organization, replication and function of the genetic material and informational macromolecules. Chromosomal structure and function, recombination, mutagenesis, genetic coding, protein synthesis, biogenesis of RNA molecules and regulation of gene expression. (3 hours lecture)

415 Introduction to Electron Microscopy (3)
Prerequisites: Biol 315 and 315L or consent of instructor. Fixation, embedding and thin sectioning of biological tissues; operation of the electron microscope; EM darkroom procedures; and interpretation of electron micrographs. (1 hour lecture, 6 hours laboratory)

416 Freshwater Biology (4)
Prerequisites: Biol 141, 141L, 161, 161L and one year of college chemistry or consent of instructor. The study of stream, pond, and lake plant and animal distribution in relation to physical and chemical factors. Application to urban systems will be emphasized. (2 hours lecture, 6 hours laboratory; 1 or more weekend field trips)

419 Marine Ecology (3)
Prerequisites: one year of college biology. Marine ecology, including interrelations of planktonic, nektonic, and benthic organisms with their environment. (3 hours lecture)

419L Marine Ecology Laboratory (1)
Corequisite: Biol 419. Field and laboratory studies of planktonic, nektonic and benthic communities. (3 hours laboratory or fieldwork; 1 or more weekend field trips may be required)

421 Biology of Marine Nekton (4)
Prerequisites: Biol 419, 419L, 461 and 475, or consent of instructor. Systematics, basic biology, and ecology of marine nekton, the larger, independently-swimming animals of coastal and oceanic waters including larger crustaceans, cephalopods, fishes, and mammals. Emphasis placed on adaptations for life in a three-dimensional environment. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend field trips may be required)

422 Intertidal Ecology (4)
Prerequisites: Biol 419, 419L, 446 and 461 or consent of instructor. The diverse intertidal biota. The interrelationships of macrophytes and macro-invertebrates with the environment. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend trips)

423 Pathogenic Bacteriology (4)
Prerequisites: Biol 302, 302L, 315 and 315L. The biology of infectious diseases; mechanisms of pathogenicity; modes of action of antimicrobial agents. Emphasis on characteristics of specific pathogenic bacteria and their identification. (2 hours lecture, 6 hours laboratory)

424 Immunology (4)
Prerequisites: Biol 302, 302L, 315 and 315L; concurrent enrollment in biochemistry is strongly advised. The molecular, cellular, and organismic nature of the immune process. Inflammation, phagocytosis, antigens, immunoglobulins, and cell-mediated immune phenomena. Modern immunology techniques. (2 hours lecture, 6 hours laboratory–discussion)

425 Pathobiology (3)
Prerequisites: Biol 302, 302L, 361, 362, Chem 351. For students engaged in the allied health sciences or who have had at least a year's experience in the allied health field. Pathobiological processes including etiology, cytopathology, histopathology, gross pathology and epidemiology. (3 hours lecture)

426 General Virology (3)
Prerequisites: Biol 302, 302L, 315 and 315L. Viral structure and host-virus interactions in the viral replication process, with emphasis on animal and bacterial virus systems. (3 hours lecture)

427 Medical Mycology (4)
Prerequisites: Biol 302, 302L, 445, or consent of the instructor. Essentials of pathogenicity, diagnosis and treatment of fungi pathogenic to man and animals. (2 hours lecture, 6 hours laboratory)

428 Biology of Cancer (3)
Prerequisites: Biol 315 and 315L. The cancer problem as a dilemma of biology. Clinical and epidemiological aspects. Current research. (3 hours lecture)

432 Microbes and Food Production (2)
Prerequisites: Biol 302 and 302L or equivalent for grade option; none for C/NC option. The ancient and modern processes of making cheese from milk, wines from fruits, breads and beers from grains. The microbes involved and the mechanisms by which their activities transform the unstable raw materials into more desirable products. (1 hour lecture, 3 hours laboratory and/or field trips)

433 Microbial Problems in Foods (2)
Prerequisites: Biol 302 and 302L or equivalent for grade option; none for C/NC option. Food spoilage, food intoxication and foodborne diseases caused by microbes in food processing. The microbes involved, sources of contamination, and methods used in detection and prevention of problems. (1 hour lecture, 3 hours laboratory and/or field trips)

438 Public Health Microbiology (4)
Prerequisites: Biol 302 and 302L and upper-division standing. The control and epidemiology of infectious diseases of public health importance, water and sewage microbiology. Control of current problems. (2 hours lecture, 6 hours laboratory)

441 Plant Taxonomy (4)
Prerequisite: one year of college biology or consent of instructor. Classification and evolution of vascular plants; emphasis on the flowering plants. (2 hours lecture, 6 hours laboratory; field trips required)

443 Plant Ecology (4)
Prerequisite: one year of college biology. Community and population ecology of terrestrial plants. Environmental factors and plant distribution with emphasis on California vegetation. (2 hours lecture, 6 hours laboratory; 1 or more weekend field trips)

444 Plant Physiology (4)
Prerequisites: one year of college biology and one semester of organic chemistry or consent of instructor. The processes of plant growth and development from germination of seeds to the formation of flowers and completion of the life cycle; plant hormones, mineral nutrition, photosynthesis, respiration, water relations and basic metabolism. (2 hours lecture, 6 hours laboratory)

446 Phycology (4)
Prerequisites: one year of college biology or Biol 141, 141L, 161 and 161L or consent of instructor. Biological aspects of marine and freshwater algae; comparative development, morphology, taxonomy and ecology. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend field trip)

461 Invertebrate Zoology (4)
Prerequisite: one year of college biology or consent of instructor. Evolution, classification, morphological and physiological adaptations, and biology of invertebrate animals. Dissection, identification and observation of living animals. (2 hours lecture, 6 hours laboratory or fieldwork)

462 Biomedical Parasitology (4)
Prerequisite: one year of college biology or consent of instructor. The relationships at all levels of animal organization. Disease-causing organisms, their life cycles, detection and diagnosis. (2 hours lecture, 6 hours laboratory)

463 Comparative Vertebrate Anatomy (4)
Prerequisite: one semester of college biology or Biol 161 and 161L or consent of instructor. The chordates; morphology and evolution of organ systems of the chordates with special emphasis on vertebrates. Comparative dissection of numerous vertebrates. (2 hours lecture, 6 hours laboratory)

464A Human Embryology (4)
Prerequisites: Biol 161 and 161L or consent of instructor. Human development from gametogenesis through organogenesis. Frog, chick and pig serial sections; histogenesis and organogenesis. (2 hours lecture, 6 hours laboratory) Not open to students with credit in 464B.

464B Embryology (4)
Prerequisites: Biol 161 and 161L or consent of instructor. Comparative and experimental analysis of the development of invertebrate and vertebrate animals including man. Laboratory emphasizes living invertebrate and vertebrate embryos. (2 hours lecture, 6 hours laboratory) Not open to students with credit in 464A.

465 Animal Ecology (4)
Prerequisite: one year of college biology or Biol 161 and 161L; Biol 316 recommended. The factors that affect the distribution and abundance of animals. Field techniques, statistical applications, and theoretical approaches. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend field trips)

466 Animal Behavior (3)
Prerequisite: one year of college biology or consent of instructor. The current problems in animal behavior; sensory capacities, orientation, innate and learned patterns, and social behavior of invertebrates and vertebrates. (3 hours lecture)

466L Animal Behavior Laboratory (1)
Corequisite: Biol 466. Experiments in the analysis of behavioral patterns. (3 hours laboratory or field trips)

467 Entomology (4)
Prerequisite: one year of college biology or consent of instructor. Anatomy, physiology, evolution, and biology of insects and other terrestrial arthropods. Dissection, collection, identification, and observation of living arthropods. (2 hours lecture, 6 hours laboratory; 1 or more weekend field trips)

468 Comparative Animal Physiology (4)
Prerequisites: one year college biology and chemistry, Biol 463 recommended. Organ systems and physiological processes among invertebate and vertebrate animals. (2 hours lecture, 6 hours laboratory)

469 Hematology (4)
Prerequisites: upper-division standing and Chem 301A or equivalent, or consent of instructor. Blood and hemopoiesis. The functions and morphology of blood components in healthy and diseased states; hematological tests and factors affecting test reliability. (2 hours lecture, 6 hours laboratory)

474 Natural History of the Vertebrates (4)
Prerequisite: one year of college biology or Biol 161 and 161L, or consent of instructor. Natural history and ecology of the vertebrates; behavior, temperature and water regulation, migration and homing, echolocation, venoms, color and coloration. Observation, identification, behavior, ecology and distribution of the vertebrates. (2 hours lecture; 6 hours laboratory or fieldwork; 1 or more weekend trips)

475 Ichthyology (4)
Prerequisite: one year of college biology, or consent of instructor. The systematics, evolution, morphology, physiology, ecology and behavior of fishes. Identification, ecology and behavior of fishes. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend trips may be required)

476 Herpetology (4)
Prerequisite: one year of college biology, Biol 161 and 161L, or consent of instructor. The biology, structure, physiology, ecology, distribution, evolution, and behavior of amphibians and reptiles. Identification, collection, study of amphibians and reptiles. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend trips)

478 Mammalogy (4)
Prerequisite: one semester of college biology, Biol 161 and 161L, or consent of instructor. The biology, structure, physiology, ecology, distribution, evolution and behavior of mammals. Identification, collection, and natural history of mammals. (2 hours lecture, 6 hours laboratory or fieldwork; 1 or more weekend trips)

480 Advanced Topics in Undergraduate Biology (1–3)
Prerequisites: upper division students majoring in biology with consent of instructor. Current topics, updating of concepts, recent advances and unification of the principles of biology. May be repeated for credit.

490 Biological Internship (3)
Prerequisites: one year each of college biology and college chemistry; upper division or graduate standing and consent of instructor. Biological and ecological community problems. Laboratory with individuals from public and private concerns. May be repeated once for credit. (1 hour lecture/discussion, 6 hours laboratory)

496 Biological Science Tutorials (1–3)
Prerequisite: senior standing in biology or consent of instructor. Supervised experience in biological science teaching through tutoring or assisting in laboratory or field class.

499 Independent Laboratory Study (1–3)
Open to undergraduate students by consent of instructor with whom the student wishes to pursue independent laboratory study in biology. May be repeated for credit.

505 Seminar in Molecular Biology (3)
Prerequisite: graduate standing or consent of instructor. Topics such as macromolecular structure, thermodynamics in biological systems and molecular regulation of cellular activities. May be repeated for credit.

510 Seminar in Physiology (3)
Prerequisite: graduate standing or consent of instructor. Selected advanced topics. May be repeated for credit.

517 Seminar in Ecology (3)
Prerequisite: graduate standing or consent of instructor. Selected advanced topics. May be repeated for credit.

518 Seminar in Marine Science (3)
Prerequisite: graduate standing or consent of instructor. Selected advanced topics. May be repeated for credit.

520 Seminar in Microbiology (3)
Prerequisite: graduate standing or consent of instructor. Selected advanced topics. May be repeated for credit.

540 Seminar in Botany (3)
Prerequisite: graduate standing or consent of instructor. Selected advanced topics. May be repeated for credit.

550 Medical Laboratory Operations (3)
Prerequisite: current medical technology certification. The medical laboratory from a financial perspective. Topics include multiple quantitative methodologies to measure: cost effectiveness of assay development, acquisition of instrumentation, workload performance analysis, income production and expense control. (3 hours lecture)

562 Human Physiology for Medical Technologists (3)
Prerequisite: current medical technology certification. The mechanisms of human body function with emphasis on relationships between organ system physiology and clinical laboratory procedures. (3 hours lecture)

580 Advanced Topics in Graduate Biology (1–3)
Prerequisites: graduate standing in biology and consent of instructor. Designed to consider current research topics, experimental design and problem solving in biological systems. May be repeated for credit.

597 Clinical Project (3)
Prerequisite: Current medical technology certification. Individual research and completion of an approved investigative project.

598 Thesis (1–3)
May be repeated for a maximum of 6 units of credit.

599 Independent Graduate Research (1–3)
Open to graduate students only by consent of instructor with whom the student wishes to pursue independent study in biology. May be repeated for credit.

DEPARTMENT OF CHEMISTRY

FACULTY
Patrick Wegner
Department Chair
Robert Belloli, John Bryden, Richard Deming, A. James Diefenderfer,* Gene Hiegel, Harvey Janota, Maria Linder, Andrew Montana, Glenn Nagel, John Olmsted, Barbara Finlayson-Pitts, Carl Prenzlow, Harold Rogers, Robert Spenger, Joseph Thomas, Carl Wamser, Bruce Weber, W. Van Willis, Dorothy Pan Wong

The Department of Chemistry is on the approved list of the American Chemical Society.

The curriculum is planned to provide thorough instruction in the basic principles and concepts of chemistry for students who will (1) advance to graduate work in chemistry or biochemistry; (2) teach in the science programs of secondary schools; (3) seek employment in industry or government; (4) advance to medical or dental training or (5) pursue a chemistry degree or minor in support of a career in other areas such as physics, biology, earth science, business and computer science.

The department offers two bachelor's degrees, the Bachelor of Science (B.S.) and the Bachelor of Arts (B.A.) which may be obtained with a biochemical emphasis.

To qualify for either a B.S. or a B.A. degree, students must earn a C grade in all courses required for the major including prerequisites in related sciences or mathematics.

Advisement

Each undergraduate chemistry major is required to be advised by a Chemistry Department faculty member. Students are expected to contact the Chemistry Department advising coordinator as soon as they recognize an interest in pursuing a chemistry major; this should take place before the end of the sophomore year. Transfer students who intend to major in chemistry are urged to consult the Chemistry Department advising coordinator before enrolling at the university.

The undergraduate advising program in chemistry is designed to assist the student in planning for both undergraduate training and a future career. Each undergraduate is assigned a faculty adviser. For advising to be effective, the student should meet with the adviser immediately upon assignment and at regular intervals thereafter, preferably prior to preregistration each semester.

BACHELOR OF SCIENCE IN CHEMISTRY

The Bachelor of Science degree is recommended for students planning to go directly into professional chemistry and for those who wish to do graduate work in physical, analytical, organic or

* University administrative officer

inorganic chemistry. Students who complete this program and include an advanced course in instrumental analysis (such as Chemistry 411) will qualify for certification by the American Chemical Society.

The B.S. degree is also recommended for students planning to go directly into professional biochemistry and for students planning to attend graduate school in biochemistry or molecular biology. Curriculum differences recommended for students interested in biochemistry are listed in footnote 2 referencing the section titled Curriculum for the B.S. in Chemistry.

Curriculum for the B.S. in Chemistry
Courses Normally Taken During the First Two Years: [1]

	Units
General Chemistry (Chemistry 120A,B)	10
Organic Chemistry (Chemistry 305A,B)	10
Quantitative Chemistry (Chemistry 315)	3
Fundamental Physics (Physics 225A,B,C, 226A,B,C)	12
Analytic Geometry and Calculus (Math 150A,B)	8
	43

Additional Required Chemistry Courses

	Units
Integrated Laboratory (Chemistry 355A,B)[2]	6
Inorganic Chemistry (Chemistry 325)[2]	3
Physical Chemistry (Chemistry 371A,B)	6
Career Options in Chemistry (Chemistry 490A)	1
Senior Research (Chemistry 495)	4
Upper-division elective [3]	3
	23

Other Requirements	*Units*
Calculus and Linear Algebra (Math 250A,B)	8
Advanced College Writing (English 301)	3
Computer Programming (Engineering 205 or Computer Science 112)	3
Career breadth [2]	9–10
Remainder of general education and elective units	35–36
	58
	124

Career Breadth Requirements for the B.S. Degree

The B.S. degree has additional career breadth requirements which must be met by alternative 1 or 2. Students intending graduate work should choose alternative 1. Courses under either alternative may be used in part to satisfy general education requirements.

1. One year (10 units) of either French, German or Russian at the introductory level.
2. Three additional elective courses (minimum of nine units) approved by the adviser. The three additional courses are intended to further the student's career objectives. They may be taken from areas such as biology, mathematics, accounting, economics, computer science and physics. For students intending graduate work who have an introductory background in French, German or Russian, one of the elective courses may be an intermediate course in the language. Students electing advanced preparation in biochemistry should combine the career breadth and biological science general education requirements in order to take at least 12 units of approved biology courses.

BACHELOR OF ARTS IN CHEMISTRY

The Bachelor of Arts in Chemistry is offered for students who are planning careers which require a sound background in fundamental chemistry, but not at the depth of the B.S. degree. Two options are available.

---

[1] These courses are prerequisite to the additional required chemistry courses.

[2] Students electing advanced preparation in biochemistry should substitute Chemistry 422A,B; Chemistry 423A,B in place of Chemistry 325, Chemistry 355B and the required upper division chemistry elective. They should also select alternative 2 of the career breadth requirements and fulfill this alternative in combination with the general education requirement in biology to take at least 12 units of approved biology courses (see footnote 4).

[3] The following upper-division chemistry courses are not allowable toward the upper-division elective requirement: Chemistry 300, 480A, 490, 495, 496 and 499.

Option one is particularly suited for those who plan to go into areas such as secondary education, technical sales, food processing, chemical patent law, forensic sciences and environmental law.

Option two which emphasizes biochemistry, provides a foundation for graduate school in biochemistry [5] and also molecular biology when coupled with suitable electives in biology. It is also strongly recommended for any student who is preparing for admission to a school of medicine, dentistry, pharmacy or veterinary medicine, as well as for special training in medical technology or clinical chemistry.

One year of foreign language (German, French or Russian) is recommended for those going on to graduate work.

Curriculum for the B.A. in Chemistry

Courses Normally Taken During the First Two Years: [1]	*Units*
General Chemistry (Chemistry 120A,B)	10
Organic Chemistry (Chemistry 301A,B, 302) [6]	8
Quantitative Chemistry (Chemistry 315)	3
Elementary Physics (Physics 211A,B, 212A,B) [5,7]	8
Analytic Geometry and Calculus (Math 150A,B)	8
	37

Additional Required Chemistry Courses (Option One)	*Units*
Integrated Laboratory (Chemistry 355A)	3
Inorganic Chemistry (Chemistry 325)	3
Physical Chemistry (Chemistry 361A,B)	6
Career Options in Chemistry (Chemistry 490A)	1
Senior Research (Chemistry 495)	2
	15

Other requirements (Option One)	*Units*
Advanced College Writing (English 301)	3
Computer Programming (Engineering 205 or Computer Science 112)	3
Remainder of general education and elective units	66
	72
	124

–or–

Additional Required Chemistry Courses (Option Two)	*Units*
General Biochemistry (423A,B)	6
General Biochemistry Laboratory (422A,B)	4
Career Options in Chemistry (Chemistry 490A)	1
Introduction to Physical Chemistry (361A,B) [5]	6
Senior Research (495)	2
	19

Other Requirements (Option Two)	*Units*
Advanced College Writing (English 301)	3
Computer Programming (Engineering 205 or Computer Science 112)	3
Biological Science [4]	12
Remainder of general education and elective units	50
	68
	124

Secondary Teaching Credential (Modified Option 1)

To qualify for a waiver from the Ryan Act Examination and to obtain a secondary teaching credential in the physical sciences, these changes in option one must be met:

1. Students taking a teaching credential in this area need not take Senior Research Chemistry 495 but should take Science Education 312.

---

[4] Students may select from the following biological science courses: 161, 302, 312, 315, 362, 405, 410, 413, 424, 426, 464, 468.

[5] Students planning to pursue graduate studies in biochemistry who are not in the B.S. program should substitute Physics 225A,B,C and 226A,B,C for Physics 211A,B and 212A,B and Chemistry 371A,B for 361A,B.

[6] Students may substitute Chemistry 305A,B (10 units).

[7] Students who are candidates for professional schools such as medicine and dentistry, graduate school in biology or a teaching credential in physical science should substitute Physics 225A,B,C, 226A,B,C (12 units).

2. Students are required to take Biol 101 and are recommended to take an additional biological science course.
3. Students are required to take 24 units of education courses plus the following science courses: Earth Science 101, 101L and 120.

MINOR IN CHEMISTRY

A minor in chemistry requires a minimum of 24 acceptable units of chemistry, including general chemistry (Chemistry 120A,B) plus 14 units of upper-division chemistry courses. [8] These courses must be completed with an overall GPA of 2.0.

The chemistry minor is appropriate for students majoring in a number of areas. Some upper-division course combinations which constitute appropriate minors are: Medical Technology: Chemistry 301A,B, 302, 351, 430. Molecular Biology: Chemistry 301A,B, 302, 421A,B. Earth Sciences: Chemistry 301A, 315, 361A,B or 325. Physics: Chemistry 301A,B, 315, 371A,B. Science Education: Chemistry 301A,B, 361A,B, 325. Other areas where a minor in chemistry would be appropriate, include Art Restoration, Forensic Science, Industrial Administration, Science Writing, and Environmental or Patent Law. Students with interests in these or other areas should consult the chemistry undergraduate adviser about courses appropriate for a minor.

INTERNSHIPS

Internship in chemistry (Chemistry 490B) provides practical work experience which integrates with the student's classroom studies.

MASTER OF ARTS IN CHEMISTRY

See "Graduate Programs."

CHEMISTRY COURSES

100 Introductory Chemistry (3)

Prerequisite: one year of high school algebra. The fundamental priniciples of chemistry; atomic and molecular structure and the application of these principles to contemporary problems. For the nonscience major. Not for majors or minors in the physical or biological sciences. (3 hours lecture)

100L Introductory Chemistry Laboratory (1)

Prerequisite: concurrent enrollment in Chemistry 100. Experiments chosen to develop laboratory techniques; chemical principles and their application to environmental and societal problems. (3 hours laboratory).

107 Air and Water Pollution (3)

Field experiments in air and water pollution. (1 hour discussion)

107D Experiments in Air and Water Pollution (1)

Corequisite: Chemistry 107. Self-designed field experiments in air and water pollution. (1 hour discussion)

111 Nutrition and Drugs (3)

The basics of nutrition; diet, food additives, vitamins, hormones, drugs, disease and related biochemical topics. Current controversies, popular practices, fads and fallacies. For the non-science major. (3 hours lecture)

113

(See Science 113, Chemical Basis of Life)

113L

(See Science 113L, Chemical Basis of Life Laboratory)

115 Introductory Chemistry (4)

Prerequisite: One year of high school algebra. Chemistry at the basic level. For students with limited background in chemistry who plan to take additional chemistry or other science courses. Does not fulfill chemistry requirements for majors or minors in the physical or biological sciences. (3 hours lecture, 3 hours laboratory)

---

[8] The following upper-division chemistry courses are not applicable toward a minor: Chemistry 300, 480A, 490, 495, 496 and 499.

120A,B General Chemistry (5,5)

Prerequisites: passing score on the Chemistry Placement Examination (generally requires one year of high school algebra plus one year of high school chemistry with a grade of B or better) or Chemistry 115 with a grade of C or better. High school physics strongly recommended. For majors and minors in the physical and biological sciences. **A**—The principles of chemistry: stoichiometry, acids, bases, redox reactions, gas laws, solid and liquid states, changes of state, modern atomic concepts, periodicity and chemical bonding. Laboratory: elementary physical chemistry and volumetric quantitative analysis. (3 hours lecture, 6 hours laboratory). **B**—Chemical thermodynamics, chemical equilibrium (gaseous, aqueous, acid-base, solubility, and complex ion), elementary electrochemistry, and chemical kinetics. Laboratory: quantitative analysis and elementary physical chemistry; some qualitative analysis. (3 hours lecture, 6 hours laboratory)

125 General Chemistry for Engineers (3)

Prerequisites: Chemistry 120A and a major in engineering. The topics are the same as Chemistry 120B but without laboratory. Not open to students with credit in Chemistry 120B. (3 hours lecture).

196 Student-to-Student Tutorials (1–3)

Supervised experience in chemistry teaching through tutoring or assisting in lower-division laboratory or field classes. Consult "Student-to-Student Tutorials" in this catalog for prerequisites and a more complete course description.

295 Directed Study (1)

Prerequisite: consent of instructor. Research in chemistry under the supervision of a chemistry department faculty member. Credit/no credit only. May be repeated for credit. Does not count towards major. All undergraduate students engaged in a chemistry research project must be enrolled in either Chemistry 295 or 495. (3 hours laboratory per unit)

300 Organic and Biochemistry (3)

Prerequisites: Chemistry 115 or equivalent, plus a passing score on a qualifying examination. Qualifying examination includes inorganic chemistry and organic chemistry of alkanes and alkenes. Course includes a review of hydrocarbons, a study of major functional groups, and an introduction to the chemistry and metabolism of carbohydrates, proteins, lipids and nucleic acids. (3 hours lecture)

300L Organic and Biochemistry Laboratory (1)

Corequisite: Chemistry 300. Laboratory designed to illustrate the chemistry of carbohydrates, lipids, proteins and nucleic acids, and to introduce some methods in clinical chemistry. (3 hours laboratory)

301A,B Organic Chemistry (3,3)

Prerequisite: Chemistry 120 A,B. Concurrent enrollment in Chemistry 302B or 302 required. Properties and reactions of aliphatic and aromatic compounds, theories of structure, and reaction mechanisms. For the nonchemistry major or for a B.A. in Chemistry. (3 hours lecture)

302 Organic Chemistry Laboratory (2)

Prerequisite: Chemistry 301A. Corequisite: Chemistry 301B. Techniques for the synthesis, characterization, and isolation of typical aliphatic and aromatic compounds. (6 hours laboratory)

302A,B Organic Chemistry Laboratory (1,1)

Chemistry 302A must be taken concurrently with Chemistry 301A. Techniques for the synthesis, isolation, and characterization of typical aliphatic and aromatic compounds. Students wishing to fulfill all of their organic chemistry laboratory rquirements in a single semester should enroll in Chemistry 302. Chemistry 302A offered in summer session only.

305A,B Organic Chemistry (5,5)

Prerequisite: Chemistry 120A,B. Lecture: Properties and reactions of aliphatic and aromatic compounds, theories of structure, and reaction mechanisms. Laboratory: Techniques for the synthesis, characterization, and isolation of typical aliphatic and aromatic compounds, with applications of instrumental and spectroscopic methods. Designed for students in the B.S. program. (3 hours lecture, 6 hours laboratory)

312 Survey of Analytical Chemistry (4)

Prerequisites: Chemistry 301A. Physics 211A,B, or 225A,B recommended. Modern analytical chemistry for non-chemistry majors. A review of aqueous ionic equilibrium, introduction to various instrumental methods of analysis, including electrochemistry, UV-visible absorption spectrophotometry, and chromatography. (2 hours lecture, 6 hours laboratory)

315 Theory of Quantitative Chemistry (Lecture) (3)
Prerequisite: Chemistry 301A or 305A. Physics 211A,B or Physics 225A,B strongly recommended. Modern analytical chemistry; aqueous and nonaqueous equilibrium calculations, electrochemistry, spectrometry, and contemporary separation methods with emphasis on chromatography. (3 hours lecture)

325 Inorganic Chemistry (3)
Prerequisites: Chemistry 301A,B or 305A,B. The chemistry of the main group elements and an introduction to transition metal chemistry. (3 hours lecture)

351 Introduction to Biochemistry (3)
Prerequisites: one year of organic chemistry (Chemistry 301A,B and 302) and one introductory course in biology. A survey of the chemical reactions in living systems; the metabolism of carbohydrates, lipids and proteins. Not acceptable for the biochemistry requirements of the B.S. and B.A. Programs. (3 hours lecture)

352 Introductory Biochemistry Laboratory (1)
Prerequisites: Chemistry 301B and 302, or Chemistry 305B. Corequisite: Chemistry 351, 421A or 423A. Introduction to quantitative biomedical methods, instrumentation, and experimentation, with emphasis on enzymology and metabolic experiments. (3 hours laboratory)

355A,B Integrated Laboratory (3,3)
Prerequisite: Chemistry 301A,B and 302, or Chemistry 305A,B. Corequisites: Chemistry 315 or 355A; Chemistry 361B or 371B or 355B. Experiments in chemical synthesis, instrumental analysis, and physical chemistry. Laboratory training and written presentation of theory, data, and results are emphasized. (1 hour lecture, 6 hours laboratory)

361A,B Introduction to Physical Chemistry (3,3)
Prerequisites: Mathematics 150A,B; Physics 211A,B or 225A,B, Chemistry 301A,B or 305A,B. Thermodynamics and kinetics; properties of gases and solutions; molecular structure and energies and application to spectroscopic techniques; liquids, phase equilibria, thermodynamics of multicomponent systems with application to the life sciences. (3 hours lecture)

371A,B Physical Chemistry (3,3)
Prerequisites: Mathematics 250, Physics 225A,B and Chemistry 305A,B. Thermodynamics, solutions, chemical and phase equilibria, electrochemistry, transport phenomena, introduction to atomic and molecular structure, rotation and vibration spectroscopy, statistical mechanics, kinetics. The use of fundamental principles to solve problems. (3 hours lecture)

403 Analysis of Organic Compounds (4)
Prerequisites: Chemistry 301A,B and 302 or 305A,B. Chemistry 355A. Isolation and identification of organic compounds using chemical and instrumental techniques. (2 hours lecture, 6 hours laboratory)

411a–f Instrumental Analysis (1–4)
Prerequisites: Chemistry 315 and 355A; or Chemistry 312. Corequisite: Chemistry 371B or 361B. 1 unit modules: **a**—Optical Spectroscopy (UV/visible, infrared, atomic absorption, flame emission); **b**—Magnetic Resonance (nuclear magnetic resonance, electron spin resonance); **c**—Separations (high performance liquid chromatography, gas chromatography/mass spectrometry); **d**—Electrochemistry (polarography (d.c., pulse, a.c.), cyclic voltammetry, coulometry); **e**—Radiochemistry; **f**—Instrumental Design and Interfacing. Students wishing an ACS approved degree must take three units. (2 hours lecture, 6 hours laboratory)

421A,B Biological Chemistry (3,3)
Prerequisite: Chemistry 301A,B and Chemistry 302. Corequisite: Biology 315. Major areas of biochemistry, including chemistry and functions of compounds of biochemical interest. Mechanisms and thermodynamics of intermediary metabolism. Biochemical foundations of the health sciences. Designed for biology majors. (3 hours lecture)

422A,B General Biochemistry Laboratory (2,2)
Prerequisites: concurrent or prior enrollment in Chemistry 421A,B or 423A,B. The chemistry and metabolism of carbohydrates, nucleic acids, lipids, and proteins; techniques of enzyme chemistry and isolation; research methods. (6 hours laboratory)

423A,B General Biochemistry (3,3)
Prerequisites: Chemistry 301A,B and 302 or Chemistry 305A,B; Chemistry 315. Corequisite: Chemistry 361A or 371A. Survey of biochemistry; structural chemistry and function of biomolecules, bioenergetics and intermediary metabolism; replication and expression of the genetic material. Designed for chemistry majors. (3 hours lecture)

425 Advanced Inorganic Chemistry (3)
Prerequisites: Chemistry 325 and 361A,B or 371A,B. The bonding, structure and reactivity of transition and lanthanide elements. Molecular orbital and ligand field theory, classical metal complexes and organometallic chemistry of the transition elements. (3 hours lecture)

427 Advanced Synthetic Techniques (3)
Prerequisites: Chemistry 355A and 325. Advanced techniques of inorganic, organic, and organometallic synthesis utilizing anaerobic and vacuum line techniques. Instrumental characterization of products and readings in the current literature required. (1 hour lecture, 6 hours laboratory)

430 Clinical Chemistry (4)
Prerequisites: Chemistry 351 and 352 or Chemistry 422A. Principles, practice and theory behind tests performed in the clinical laboratory to assess human health. (2 hours lecture, 6 hours laboratory)

431 Advanced Organic Chemistry (3)
Prerequisites: Chemistry 361A,B or 371A,B. Theoretical and physical aspects of organic chemistry. The modern concepts of structure, and reaction mechanisms. (3 hours lecture)

450 Advanced Physical Chemistry (3)
Prerequisite: Chemistry 371A,B Classical thermodynamics, statistical mechanics and chemical kinetics. (3 hours lecture)

451 Quantum Chemistry (3)
Prerequisite: Chemistry 371A,B. Postulates and theories of approximation methods in quantum chemistry, the electronic structure of atoms and molecules, chemical bonds, group theory and applications. (3 hours lecture).

480A Topics in Contemporary Chemistry (1)
Prerequisite: upper-division standing in chemistry. Research seminar dealing with topics of current interest in chemistry such as photochemistry, biochemistry, analytical chemistry and organometallic chemistry. Credit/no credit only. Not applicable toward master's degree. May be repeated for credit.

480B Topics in Contemporary Chemistry (2–3)
Prerequisite: upper division standing in chemistry. Special lecture topics of current interest in chemistry. May be repeated for credit. (1 hour lecture per unit)

490A Career Options in Chemistry (1)
Prerequisites: upper-division standing in chemistry; Chemistry 355A or 422A; and consent of instructor. Career options in chemistry. Credit/no credit only. (1 hour lecture)

490B Internship in Chemistry (1–2)
Prerequisites: upper-division standing in chemistry; Chemistry 355A or 422A; and consent of instructor. Internship in chemistry. Work in projects in industrial, governmental, or medical laboratories. May count as career breadth requirement units for chemistry majors. May be repeated once. Does not count toward M.A. degree.

495 Senior Research (1–3)
Prerequisites: three one-year courses in chemistry, senior standing and consent of instructor. The methods of chemical research through a research project under the supervision of one of the Chemistry Department faculty. May be repeated for credit. Only 6 units may apply toward B.A. or B.S. degree. (3 hours laboratory per unit)

496 Student-to-Student Tutorials (1–3)
Supervised experience in chemistry teaching through tutoring or assisting in laboratory or field classes. Consult "Student-to-Student Tutorials" in this catalog for prerequisites and a more complete course description.

499 Independent Study (1–3)
Prerequisites: upper division standing and completion of two one-year courses in chemistry. Special topics in chemistry selected in consultation with the instructor with approval of department chair. May be repeated for credit. Only six units may apply toward B.A. or B.S. degree.

505A Seminar (Attendance) (1)
Prerequisites: Graduate standing and consent of department. Student attendance at presentations by invited scientists of topics of current interest in chemistry. May not be repeated for credit. (1 hour seminar)

505B Seminar (Presentation) (1)
Prerequisites: Chemistry 505A, graduate standing, and consent of the department. Student presentation of recent contributions to the chemical literature. May not be repeated for credit. (1 hour seminar)

511 Theory of Separations (3)
Prerequisites: Chemistry 355A and 361A,B or 371A,B. The theory, application, and limitations of physical and chemical separation techniques; chromatography. (3 hours lecture)

512 Electroanalytical Chemistry (4)
Prerequisites: Chemistry 355A and 361A,B or 371A,B. Potentiometry, amperometry, electroanalysis, coulometry, conductometry, polarography, single and multiple sweep voltammetry, chronopotentiometry and chronoamperometry. (2 hours lecture, 6 hours laboratory)

535 Organic Synthesis (3)
Prerequisite: Chemistry 371A,B. Methods of synthetic organic chemistry and their application to construction of organic molecules. Recent developments. (3 hours lecture)

539 Chemistry of Natural Products (3)
Prerequisite: Chemistry 301A,B or 305A,B. The chemistry of the alkaloids, terpenes, steroids and other natural products of plant and animal origin. (3 hours lecture)

540 Chemistry of Proteins (3)
Prerequisite: Chemistry 421A or 423A. Theory and practice of the chemical modification of proteins for basic and applied research; comparative structural chemistry. (3 hours lecture)

543 Physical Biochemistry (3)
Prerequisites: Chemistry 361A,B or 371A,B, Chemistry 421A,B or 423A,B or consent of instructor. Methods for measuring physical properties of proteins and nucleic acids in solution. Thermodynamic and hydrodynamic aspects. (3 hours lecture)

546 Metabolism and Catalysis (3)
Prerequisite: Chemistry 421A,B or 423A,B or consent of instructor. Regulation of biosynthetic and degradative reactions in living systems. The control of enzyme activity and concentration. Mechanisms of hormone action. (3 hours lecture)

580 Topics in Advanced Chemistry (1–6)
Prerequisites: graduate standing in chemistry. Current research topics in chemistry in the areas of analytical, organic, inorganic, physical and biochemistry. May be repeated for credit. (1 hour seminar per unit)

597 Project (1–2)
Prerequisite: an officially appointed thesis committee. Guidance in the preparation of a project for the master's degree.

598 Thesis (1–2)
Prerequisite: an officially appointed thesis committee. Guidance in the preparation of a thesis for the master's degree.

599 Independent Graduate Research (1–6)
Prerequisite: graduate standing in chemistry. May be repeated for credit.

DEPARTMENT OF COMPUTER SCIENCE

FACULTY
Edward Sowell
Department Chair
Raymond Bagley, David Falconer, Randell Flint, Edward McCormick, Demetrios Michalopoulos

Computer science is the science of information, its representation, its storage, its structures, its display and the processes by which it is transformed. It is interested in all kinds of information: numeric, alphabetic, pictorial, verbal, tactile, olfactory, sensory information and that requiring instrumentation for detection. The computer scientist is interested in effective ways to represent information, algorithms to transform information, languages in which to express algorithms, the logical structures of devices which translate or interpret such languages, the theoretical techniques for insuring the accuracy and minimizing the cost of such processes and the philosophical foundations of such mechanical intelligence.

The Department of Computer Science offers programs leading to the Bachelor of Science in Computer Science and the Master of Science in Computer Science degrees.

Internships: Computer Sci 495, Internship in Computer Science, provides practical work experience which integrates with classroom studies.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

The degree requires completion of 58 units of course work in the fundamental theory of computer science and in the dominant application areas. This work represents the common body of knowledge, mastery of which is expected of all computer scientists. Additionally, all students must take three units of upper-division writing. Computer Sci 300, Concepts Beyond Programming, meets this requirement. An additional 12 units of electives allow the student to pursue special interests in computer science and to explore other application areas. The student's grade-point average must be at least 2.0 for the 73 units required for the major, and none of these may be taken on a credit-no credit basis.

Required courses are as follows: *Units*

Lower Division 25

- Computer Sci 112 Introduction to Computer Programming (3)
- Computer Sci 210 Introduction to Machine Language and Logic (3)
- Computer Sci 212 Introduction to Computational Languages (3)
- Mathematics 150A,B Analytic Geometry and Calculus (4,4)
- Mathematics 250A,B Intermediate Calculus (4,4)

Upper Division 36

- Computer Sci 300 Concepts Beyond Programming (3)
- Computer Sci 302 Information Structures (3)
- Computer Sci 310 Systems Programming (3)
- Computer Sci 410 Operating Systems Concepts (3)
- Computer Sci 470 Theory of Computation (3) *or*
  Computer Sci 471 Automata Theory (3)
- Engineering 312 Digital Logic Design (3)
- Engineering 405 Digital Computer Design and Organization (3)
- Mathematics 340* Numerical Analysis (3) *or*
  Engineering 403* Computer Methods in Numerical Analysis (3)
- Mathematics 335 Mathematical Probability (3) *or*
  Engineering 423 Engineering Probability and Statistics (3)
- Mathematics 435* Mathematical Statistics (3) *or*
  Management Science 461* Advanced Statistics (3)
- Management Science 448 Computer Simulation in Business and Economics (3)
- Management Science 363 Management Science (3)

Upper-Division Electives 12

A minimum of 12 units of upper-division electives, at most 6 of which may be selected from the list of related courses offered by other departments and at least 6 of which must be selected from upper-division courses offered by the Department of Computer Science and numbered below 490. No more than 3 units of Computer Sci 495 can be used.

Total 73

Upper-Division Elective Courses Related to Computer Science

Economics:

- 310 Intermediate Microeconomic Analysis (3)
- 440 Introduction to Econometrics (3)

Engineering:

- 303 Electronics (3)
- 303L Electronic Laboratory (1)
- 308 Engineering Analysis (3)
- 312L Digital Logic Laboratory (2)
- 404L Microprocessor Laboratory (1)
- 405L Digital Computer Design Laboratory (3)
- 424 Computer Simulation of Continuous Systems (3)
- 445 Digital Electronics (3)

* Not *both* Mathematics 435 and Management Science 461 nor *both* Mathematics 340 and Engineering 403 may be used to fulfill requirements.

445L Pulse and Digital Circuits Laboratory (2)
448 Digital Systems Design (3)
497 Senior Projects (1–3)
499 Independent Study (1–3)

Mathematics:
302 Modern Algebra (3)
304 * Mathematical Logic (3)
306 Vector Analysis (3)
310 Ordinary Differential Equations (3)
330 Number Theory (3)
350A,B Advanced Calculus (3,3)
370 Mathematical Model Building (3)
412 Complex Analysis (3)
431 Methods of Applied Mathematics (3)
440 Numerical Solutions of Partial Differential Equations (3)
445 Advanced Numerical Analysis (3)
499 Independent Study (1)

Philosophy:
369 * Second Course in Symbolic Logic (3)

Management Science:
404 Analysis of Information Systems (3)
408 Data Base Management Systems (3)
465 Linear Programming (3)
466 Mathematical Programming (3)
467 Statistical Quality Control (3)
475 Multivariate Analysis (3)
490 Queuing and Other Probability Models in Business and Economics (3)
499 Independent Study (1–3)

Prior to registration in courses related to their personal objectives but which are not on this list, students should see a computer science adviser for acceptance of such courses.

MINOR IN COMPUTER SCIENCE

Students majoring in other fields, including those without an extensive mathematics background, may earn a minor in computer science. A minimum of 21 units of computer science are required for a minor. These shall include the following courses: Computer Sci 112, 210 and 212 and 12 units taken from upper-division courses listed above as requirements or electives for computer science majors. No more than six units may be taken from departments other than the Computer Science Department.

Students must have a 2.0 grade-point average or better in the minor. These courses may not be taken on a credit/no credit basis.

Student Advisement

The undergraduate program adviser has overall supervision of the undergraduate program. The advising of individual students is divided among the full-time faculty of the Computer Science Department.

For advising appointments, the student should contact the Computer Science office.

MASTER OF SCIENCE IN COMPUTER SCIENCE

See "Graduate Programs."

COMPUTER SCIENCE COURSES

112 Introduction to Computer Programming (3)
Prerequisite: three years of high school mathematics including two years of algebra. Provides programming experience in BASIC programming language. Problem solving and structured programming are emphasized. (2 hours lecture, 2 hours laboratory)

* Not *both* Mathematics 304 and Philosophy 369 may be used to fulfill upper-division elective requirements.

210 Introduction to Machine Languages and Logic (3)
Prerequisite: Computer Sci 112, or Management Science 265, or Engineering 205, or equivalent. Assembler languages, hardware organization, logic, system software of modern digital computers and number systems.

212 Introduction to Computational Languages (3)
Prerequisite: Computer Sci 112 or equivalent. Computer programming systems, information structures, data representations and applications. Nonnumerical programming assignments in several different computational languages. The dependence of this range of languages upon the classical models of computation.

260 Structured Programming in Fortran (3)
Prerequisite: introductory programming course. Fortran syntax and structure, concepts of structured programming in FORTRAN 77 implementations, advanced application programming including, files, graphics, character, manipulation, data structures and sorting. (No credit toward major.)

261 Programming in Pascal (3)
Prerequisite: Computer Sci 112 or equivalent. Concepts of program design and implementation in the PASCAL language. Data types; input/output; control structures; data structures. Structured programming methodology is emphasized. (No credit toward major.)

270 File Concepts and COBOL Programming (3)
(Same as Management Science 270)

300 Concepts Beyond Programming (3)
Prerequisite: Computer Sci 210 plus either English 101 or Communications 103 (or equivalent). Overview of computer science: Software engineering, systems architecture, formal methods, and the role of computing in society. Special emphasis on technical writing as applied to computer science. This course meets the classroom portion of the upper-division writing requirement for computer science majors.

302 Information Structures (3)
Prerequisites: Computer Sci 210 and 212 or equivalent. The abstract properties of information structures and their practical employment in information processing applications. Properties of lists, stacks, queues, and trees are examined.

310 Systems Programming (3)
Prerequisite: Computer Sci 302 or equivalent. The design and implementation of software systems. Assemblers, compilers and macro processors from the software engineering perspective. The student is assigned several systems to implement.

371 Introduction to Combinatorics (3)
(Same as Math 371)

402 Introduction to Discrete Structures (3)
Prerequisites: Computer Sci 302 and Math 150A/B or consent of instructor. Combinatorial and graph theory techniques applied to the study of known and unknown structures, to counting, approximate counting and enumeration of structural configurations, and to resolution of discrete optimization problems.

404 Introduction to Microprocessors and Microcomputers (3)
(Same as Engineering 404)

410 Operating Systems Concepts (3)
Prerequisite: Computer Sci 310 or equivalent. The interdependence of computer structures, language design and operating systems design. The student will implement several systems.

416 Computer Performance Evaluation (3)
Prerequisites: Computer Sci 310 or Management Science 310; Management Science 461 or Engineering 423 or Math 435. The application of statistics, queuing theory and simulation to the evaluation of alternative strategies for computer system configuration. (Same as Management Science 416)

414 Mini-Computer Software Systems (3)
Prerequisite: Computer Sci 310 or equivalent. The design and implementation of software. Analysis of the software system of an existing mini-computer and work on a team to implement a significant programming assignment.

421 System Security and Encryption (3)
Prerequisite: Computer Sci 410 or equivalent. System security and encryption. Current issues in security, encryption and privacy of computer based systems.

430 Software Engineering (3)
Prerequisite: Computer Sci 302. Structured programming, top-down design concepts and modularization, software tools, program validation and testing, techniques for the control and administration of software development projects.

440 Theory of Algorithms (3)
Prerequisites: Computer Sci 302 and Math 281 or equivalent. Analytic techniques for the determination of algorithm efficiency in time and memory requirements. NP-complete problems, complexity hierarchies, and provably intractable problems.

462 Interactive System Techniques (3)
Prerequisite: Computer Sci 310. Methodologies for the communication of textual data between man and machine. Techniques for interactive application design. Consideration of the limitations and capabilities of human users. Students will design and implement several systems.

463 Pattern Recognition (3)
Prerequisite: Computer Sci 302, Management Sci 461 or consent of instructor. Classification techniques, discriminant functions, training algorithms, potential function theory, supervised and unsupervised learning, feature selection, clustering techniques, multidimensional rotations and rank ordering relations.

465 Principles of Computer Graphics (3)
Prerequisite: Computer Sci 310. Examination and analysis of computer graphics; software structures, display processor organization, graphical input/output devices, display files. Algorithmic techniques for clipping, windowing, character generation and viewpoint transformation.

470 Theory of Computation (3)
Prerequisites: Computer Sci 302 and Math 250. The formal theory of computation, the concepts of decidability, algorithms, procedures and the theoretical foundations of computer science.

471 Automata Theory (3)
Prerequisites: Computer Sci 302 and Math 250 or equivalent. Computation and its relation to modern computing techniques. Development of theoretical machines, equivalence theorems, and the algebraic theory of recognizers.

487 Artificial Intelligence (3)
Prerequisite: Computer Sci 302. Topics of current interest from heuristic programming, pattern recognition, learning systems, problem solving systems, and formal symbol manipulating systems.

495 Internship in Computer Science (1–3)
Prerequisite: computer science or related major and consent of instructor. Practical experience relevant to computer science in government or private agencies.

499 Independent Study (1–3)
Prerequisite: approval by the chair.

510 Operating Systems Design (3)
Prerequisite: Computer Sci 410 or equivalent. Design and evaluation techniques for controlling automatic resource allocation, providing efficient programming environments and appropriate user access to the system, and sharing the problem solving facilities.

512 Compiler Design (3)
Prerequisite: Computer Sci 310 or equivalent. Techniques for the design of compilers and their relation to formal automata and formal grammars.

530 Advanced Software Engineering (3)
Prerequisites: Computer Sci 430, 510 and 512. Application of software engineering concepts to actual system design problems. Comparison of computing design methodologies through case studies. Students will participate in group design projects.

566 Design of Administrative Information Systems (3)
Prerequisite: Computer Sci 410. Data base management systems in business and government. The information structures and algorithms employed will be related to operating characteristics.

567 Design of Database Management Systems (3)
Prerequisite: Computer Sci 566. Course will treat advanced topics in the development of a database management system, beginning with introduction of user requirements through acceptance testing of a delivered system.

572 Formal Languages and Automata (3)
Prerequisite: Computer Sci 470 or 471. Finite and infinite languages; the formal relation between generators and acceptors; types of formal grammars; decidability and partial decidability.

597 Project (1–3)
Prerequisites: classified graduate standing and approval of the computer science graduate adviser.

598 Thesis (1–3)
Prerequisites: classified graduate standing and approval of the computer science graduate adviser.

599 Independent Graduate Research (1–3)
Prerequisites: classified graduate standing and approval by the chair.

DEPARTMENT OF EARTH SCIENCE

FACULTY
John Ryan
Department Chair
Gerald Brem, Christopher Buckley, John Cooper, Neil Maloney, Prem Saint, Margaret Woyski

The Department of Earth Science offers a program leading to the Bachelor of Science in Earth Science. This program is designed to provide a solid foundation in geoscience with course elective sequences that prepare students for (1) graduate studies in geology, geochemistry, geophysics, hydrogeology and oceanography with meteorology; (2) employment in the earth sciences; (3) teaching in earth science; and (4) an avocation and an awareness and understanding of the earth. A minor in earth science is available, in support of other major programs.

BACHELOR OF SCIENCE IN EARTH SCIENCE

Of the 130 units required for graduation, 43 are in earth science, 34 to 37 in related fields, 36 in general education courses (other than related fields) and the remaining 14–17 undesignated units are selected to meet particular needs of each student.

Within the general field of earth science the department has four major areas of study: geology, geochemistry, geophysics and hydrogeology with oceanography and meteorology. *The student must consult an adviser immediately upon entering the major in order to design a course progression best meeting individual desires.* An adviser is mandatory for all majors and minors. For information on detailed advisement students should contact the Earth Science Department.

To qualify for the B.S. in Earth Science, students must have a C or better in all earth science courses required for the major; students must have a C average in required courses in related fields. A proficiency in a modern foreign language is recommended for students who plan to continue in graduate school. Proficiency in English composition is required.

Minimum Course Requirements for the Major	*Units*
Required courses	31–32
101, 101L Physical Geology (3,1)	
201 Earth History (4)	
303A,B Mineralogy and Petrology (3,3)	
321 Sedimentation and Stratigraphy (3)	
360 Structural Geology (3)	
* 380 Geologic Field Techniques (3)	
498 Senior Thesis (1–2) (taken in conjunction with earth science elective)	
One course from the following:	
333 Oceanography (3)	
335 General Hydrology (3)	
340 General Meteorology (3)	
One course from the following:	
435 Hydrology Field Camp (4)	
481 Geology Field Camp (4)	
Adviser-approved earth science electives	11–12
Total units required in earth science of which at least 24 must be upper division	43

* Meets requirement for upper-division writing course.

Minimum Requirements in Related Fields. Minimum of nine courses in related fields are required and should be taken early in the program. These will include:

Two semesters of mathematics: (1) 150A,B; or (2) 130 and 338 with consent of adviser	7–8
Two semesters of physics: (1) 225A and 226A, and either 225B and 226B or 225C and 226C; or (2) 211A,B and 212A,B with consent of adviser	8
Two semesters of chemistry: 120A,B	10
One semester of biology: 101, or 141 and 141L, or 161 and 161L	3–4
One semester of computer programming: Computer Science 112 or Engineering 205	3
One additional semester course selected with approval of adviser from courses such as the following:	
Biology: 316, 401, 419, 461, or 463	
Chemistry: 301A, 312, 325, 361A or 361B	
Engineering: 102, 202, 304, 324, 333, 436	
Geography: 312, 381, 412	
Mathematics: 250A,B	
Physics: 225B or C and 226B or C, or 325	3–4
Total	34–37
Undesignated Units	14–17

These are to be taken in earth science, related fields and/or career support fields, with adviser approval.

Recommended High School Preparation
Mathematics—four years, including trigonometry
Chemistry and physics
Modern foreign language—three years
English—four years

Recommended Community College Preparation
Physical and historical geology, with laboratory
Mathematics through first year of calculus
College chemistry
Introductory physics, if none in high school
Writing skills

Suggested Program for a B.S. in Earth Science, First Four Semesters:

The following is a guide only. It is important that you see your adviser each semester before you register, to plan the course progression most suitable for your needs.

First Semester (Fall or Spring)	*Units*
Earth Science 101 and 101L	4
Mathematics 150A (or 100 if you do not pass the MSE qualifying exam)	4
Chemistry 120A (or 115 if you do not pass the MSE qualifying examination)	5
General education	3
	16
Second Semester (Fall or Spring)	
Earth Science 201	4
Mathematics 150B	4
Chemistry 120B	5
General Education	3
	16
Third Semester (Fall)	
Earth Science 303A	3
Earth Science 304	1
Earth Science 380	3
Physics 225A, 226A	4
General Education or Earth Science	3
	14
Fourth Semester (Spring)	
Earth Science 303B	3
Earth Science 305	1
Earth Science 321	3

Earth Science 335 or General Education	3
Physics 225B, 226B	4
	14

Credentials Program

Requirements for waiver of the comprehensive examination for a *teaching credential in physical science* include: Earth Science 101 and 101L, 201, 140 or 340, 303A,B, 321, 333, 360, 380, Physics 350 or 200; Mathematics 130 and 338; Chemistry 120A,B; Physics 211A,B and 212A,B; Biological Science, any two of: 101 and 101L; 141 and 141L; 161 and 161L; Science Education 312; professional education courses.

Internships

The department offers an internship program through Earth Science 490. This permits the student to obtain on the job experience in an earth science field. Three units maximum are permitted toward the degree.

MINOR IN EARTH SCIENCE

A minimum of 20 units are required for a minor, six of which must be upper division. The courses shall be selected by the student in consultation with his minor adviser. Prospective teachers should include courses in physical geology, earth history, meteorology, astronomy, oceanography, and rocks and minerals.

GEOCHEMISTRY

The Departments of Chemistry and Earth Science offer an M.A. in Chemistry, Geochemistry Emphasis. For further information see "Graduate programs" under Chemistry, or contact the departments.

EARTH SCIENCE COURSES †

All lower-division (100–200 level) courses are offered each semester. The department plans to offer in 1983–85 Earth Science 303A, 304, 333 or 340, 360, 380, and 400 each fall, Earth Science 303B, 305, 321, 335 each spring and the remaining courses on a three to four semester rotation. Consult the department for details.

101 Physical Geology (3)
High school algebra recommended. The physical nature of the planet earth, the genesis of rocks and minerals, erosion processes and their effects. Optional field trips.

101L Physical Geology Laboratory (1)
Corequisite: Earth Science 101. Laboratory on minerals, rocks, earthquakes, and map and aerial photographic interpretation. (3 hours laboratory or field trip)

112
(See Science 112, The Physical Earth)

112L
(See Science 112L, The Physical Earth Laboratory)

120 Introduction to Earth Science (3)
The nature of our planet, its place in space, its atmosphere and oceans, its interior, and its changing surface. Optional field trips.

121 Earth Science Laboratory (1)
Corequisite: Earth Science 120. Rock and mineral identification, fluvial and marine processes, landform recognition from topographic maps, geologic maps, air and space photographs. (3 hours laboratory)

140 Earth's Atmosphere (3)
The composition, structure and circulation of the atmosphere; the origins of storms and other weather disturbances.

201 Earth History (4)
Prerequisite: Earth Science 101, 101L. Evolution of the earth as interpreted from rocks, fossils and geologic structures. Plate tectonics provides a unifying theme for consideration of mountain building, evolution of life and ancient environments. (2 hours lecture, 6 hours laboratory, 1 or 2 field trips)

---

† For all courses, prerequisites may be waived by the instructor if satisfied that the student is qualified to take the course.

303A Mineralogy and Introduction to Petrology (3)
Prerequisites: Earth Science 101, 101L, Chemistry 120A; concurrent enrollment in Earth Science 304 recommended. Crystallography; origin, occurrence, composition and identification of minerals; rock-forming minerals. (2 hours lecture, 3 hours laboratory)

303B Igneous and Metamorphic Petrology (3)
Prerequisites: Chemistry 120A; Earth Science 303A; concurrent enrollment in Earth Science 305 recommended. Description, classification, occurrence and origin of igneous and metamorphic rocks. (2 hours lecture, 3 hours laboratory, field trip)

304 Mineral Recognition (1)
Prerequisite or corequisite: Earth Science 303A or equivalent. Laboratory practice in recognition and identification of minerals and crystals. (3 hours laboratory)

305 Hand Specimen Petrology (1)
Corequisite: Earth Science 303B or equivalent. Laboratory practice in recognition and classification of rocks. (3 hours laboratory)

310 Directed Readings in Earth Science (1–2)
Directed investigations of one aspect of earth science. Alternating topics are: geology of national parks, California geology, ocean off California, California earthquakes, ancient life, and minerals. May be repeated for credit with a different topic.

321 Sedimentation and Stratigraphy (3)
Prerequisites or corequisite: Earth Science 201, 303A, 303B. Textural and mineralogic properties of sediments used in discrimination of depositional conditions and environments, classification of sedimentary rocks, and study of stratigraphic patterns. (2 hours lecture, 3 hours laboratory, several field trips)

322 Principles of Paleontology (3)
Prerequisites: Earth Science 201; Biology 101 or 161 or equivalent. The groups of organisms that have left an important fossil record. Taxonomy, morphology and systematics, biostratigraphy, paleoecology, and evolutionary trends. (2 hours lecture, 3 hours laboratory, field trips)

333 Oceanography (3)
Prerequisite: Earth Science 101 or 120 or equivalent; Physics 225A, 226A or 211A, 212A. The chemical, physical and geological nature of the oceans. (2 hours lecture, 3 hours laboratory, one cruise, and one coastal field trip)

335 General Hydrology (3)
Prerequisites: Earth Science 101 or 120, Mathematics 150A or 130. The principles governing the nature, occurrence and movement of surface water and groundwater. Practical techniques in evaluating rainfall/runoff relationships, floods, aquifer performance and water quality investigation. (2 hours lecture, 3 hours laboratory)

340 General Meteorology (3)
Prerequisites: Earth Science 101 or 120 or equivalent; Physics 211A, 212A or Physics 225A, 226A. Atmospheric processes. Composition and structure of planetary atmospheres, atmospheric radiation, thermodynamics of moist air, precipitation mechanisms, elementary atmospheric dynamics. Some map analysis and use of thermodynamic diagrams.

355 Earth's Interior (3)
Prerequisites: Physics 211A, 212A or 225A, 226A and Chemistry 120A or equivalent. Geophysical, geochemical properties of mantle and core. How knowledge has been obtained and impact of internal processes on crustal/surface phenomena.

356 Introduction to Applied Geophysics (3)
Prerequisites: Physics 211A, 212A or 225A, 226A; 3 units earth science recommended. Seismic refraction, gravity, magnetic and electrical techniques and fundamentals as applied to determination of subsurface structure, groundwater and location of mineral resources. Field use of instruments, data reduction and analysis. (2 hours lecture, 3 hours laboratory and field)

360 Structural Geology (3)
Prerequisites: Earth Science 303A,B; Physics 211A, 212A or 225A, 226A. Structural geology. Faults, folds, mechanics of rock deformation, and elementary tectonics; solution of problems by geometric, trigonometric and stereographic analysis. (2 hours lecture, 3 hours laboratory and/or field—some weekends)

370 Urban Geology and Planning (3)
Prerequisites: Earth Science 101 or equivalent. Geological hazards and man's interaction with earth processes and earth resources. Environmental planning and management. (2 hours lecture, 3 hours laboratory or field)

375 Engineering Earth Science (3)
Prerequisites: Earth Science 380, Mathematics 150A, Physics 211A, 212A. Engineering properties of rocks and soils; exploration techniques; analysis of earth science principles applicable to engineering problems, report preparation and professional responsibility. (2 hours lecture, 3 hours laboratory or field)

380 Geologic Field Techniques (3)
Prerequisites: Earth Science 101 and 101L, 201; 303A recommended. Brunton compass use, measurement of stratigraphic sections, principles of topographic maps and aerial photographs and use in geologic mapping, geologic map preparation, columnar sections, cross sections and technical reports. (1 hour lecture, 6 hours field, weekends)

400 Optical Methods (3)
Prerequisites: Earth Science 303B; Physics 211A, 212A or 225C, 226C recommended. Principles of optical crystallography. Optical identification of minerals. Examination of rocks in thin section. (2 hours lecture, 3 hours laboratory)

404 Petrography (3)
Prerequisite: Earth Science 400. Composition, occurrence, and origin of igneous, sedimentary, and metamorphic rocks in microscopic study. (1 hour lecture, 6 hours laboratory)

405 Advanced Igneous and Metamorphic Petrology (3)
Prerequisites: Earth Science 303B; Chemistry 120A,B. Composition and origin of igneous and metamorphic rocks. (2 hours lecture, 3 hours laboratory)

406 Geochemistry (3)
Prerequisites: Earth Science 303B, Chemistry 120A, Mathematics 150A recommended. Basic chemical and thermodynamical principles applied to the origin and alteration of igneous, sedimentary and metamorphic rocks and economic mineral deposits.

407 Instrumental Methods in Earth Science (3)
Prerequisites: Earth Science 303B, Chemistry 120A,B. Determination of rock and mineral compositions by density determinations, x-ray diffraction, x-ray fluorescence, atomic absorption spectrometry, differential thermal analysis, wet geochemical analysis, electron microprobe and mass spectrometry. (1 hour lecture, 6 hours laboratory)

410 Special Topics in Earth Science (2–3)
Prerequisite: junior or senior standing in science. Check with department for specific prerequisites for given topic. Research concepts such as plate tectonics, soil science, planetary science, petroleum geology, paleontology, marine geology or meteorology. Can be repeated for credit with different topic.

423 Advanced Sedimentology and Stratigraphy (3)
Prerequisites: Earth Science 303A and 321. Case histories from literature illustrate concepts, methods, and results in sedimentology/stratigraphy analysis. Field and lab work center around student research on actual problems; research to culminate in paper with professional format. (2 hours lecture, 3 hours laboratory)

431 Physical Oceanography (3)
Prerequisites: Earth Science 333 or equivalent, Physics 211B, 212B or 225A, 226A. Physical properties of sea water, water masses, ocean currents, underwater sound, waves and tides. (2 hours lecture, 3 hours laboratory, one field trip)

435 Hydrology Field Camp (4)
Prerequisites: Earth Science 335, 380; plus 321 and 360, or equivalent experience and consent of instructor. Hydrologic field mapping and techniques including stream gauging, aquifer tests and lake surveys. Final written report required. (45 hours a week for four weeks).

436 Hydrogeology (3)
Prerequisites: Earth Science 335, 356, 360, or equivalent. Occurrence, movement and utilization of groundwater resources; geological, geophysical and hydrological methods for groundwater exploration. (2 hours lecture, 3 hours laboratory, field trips)

437 Water Quality Investigations and Control (3)
Prerequisites: Earth Science 335, Chemistry 120A,B. Methods in sampling strategy. Evaluation of chemical data for quantitative interpretation of water quality status and trends, surface and subsurface. Techniques for graphic representation, water contamination source identification, and control. (2 hours lecture, 3 hours laboratory and field)

455 Earthquake Seismology (3)
Prerequisites: Physics 211A,B; 212A,B, 225A, 226A; Earth Science 355 recommended. Earthquake measurement, characteristics and mechanisms. Magnitude, intensity, source locating. Prediction and prevention principles and techniques. Seismic risk. Current research directions. Southern California seismicity including case study. (3 hours lecture, one field trip)

460 Regional Tectonics (3)
Prerequisites: Earth Science 360. Investigation of regional tectonics, evolution of major structural units; orogenic belts, and plate tectonics; emphasis on the Cordillera and Alps.

471 Mineral Deposits (3)
Prerequisites: Earth Science 303B, 304, Chemistry 120A, or equivalent. Processes of mineral deposit formation; classification, characterization, and distribution of metallic and nonmetallic mineral deposits. (2 hours lecture, 3 hours laboratory)

481 Geology Field Camp (4)
Prerequisites: Earth Science 303B, 321, 360, 380. Geologic field mapping, operating from a field camp under primitive conditions in an area of varying geologic complexity. Field report, map and cross-sections due one week after departing camp. (45 hours a week for four weeks)

482 Geologic Surveying (3)
Prerequisites: Earth Science 303B, 360 and trigonometry. Applications of surveying to the solution of geologic problems. (1 hour lecture, 6 hours field work)

490 Earth Science Internship (3)
Prerequisite: junior or senior standing in earth science. Earth science work experience, salaried or volunteer, with industry, government or private agencies. Student intern will be supervised by faculty adviser and employer. (1 hour of seminar plus a total of 120–150 hours of work experience)

496L Earth Science Tutorial (2)
Prerequisite: 20 units in earth science. Supervised experience in earth science teaching through tutoring or assisting in laboratory or field classes.

498 Senior Thesis (1–2)
Prerequisite: senior standing in earth science. Developed as an extension of an advanced course, conducted independently by the student under faculty supervision, culminating in a paper of professional quality. Two units maximum credit permitted.

499L Independent Study (1–3)
Independent study of a topic selected in consultation with and completed under the supervision of the instructor. May be repeated for credit.

506 Topics in Geochemistry (3)
Prerequisite: consent of instructor. Special topics in geochemistry with emphasis on current investigations, specifically isotope, aqueous or petrologic geochemistry, crystal chemistry, or geochemical exploration. May be repeated for credit with different topic.

DIVISION OF ENGINEERING

FACULTY

Department of Civil Engineering/Engineering Mechanics: Dindial Ramsamooj, Chair
Richard Brock, George Chiang, Chao Lin, Chandrasekhar Putcha, Mahadeva Venkatesan, Andy Wang

Department of Electrical Engineering: Mohinder Grewal, Chair
John Clymer, George Cohn, Douglas Dethlefsen, William Farrand, Eugene Hunt, Jack Kemmerly, Sung-Chun Kim, Rajendra Kumar, Young Kwon, Adel Marouf, Chennareddy Reddy, Mostafa Shiva, Dariush Siadat, Jesus Tuazon, Andrew Veronis

Department of Mechanical Engineering: James Rizza, Chair
Munir El-Saden, Krishna Kammula, Jesa Kreiner, Sundaram Krishnamurthy, Timothy Lancey, Kurt Lund, Peter Othmer, Alexander Pomerantsev, Floyd Thomas, Andrew Wortman

The Division of Engineering offers programs at the undergraduate and graduate levels. At the undergraduate level the division prescribes certain engineering courses combined with those of other

academic departments and schools of the university as a program of 138 semester units leading to the Bachelor of Science in Engineering. At the graduate level the division offers the Master of Science in Engineering based on an approved sequence of 30 semester units of course work. In the graduate program, specific options in major fields are offered.

BACHELOR OF SCIENCE IN ENGINEERING

The undergraduate program is accredited by the Accreditation Board for Engineering and Technology. The objective of the undergraduate engineering program is to form a broad base of science, mathematics, social sciences, humanities and engineering science—coupled with a specialization in an area of concentration. Students are thus prepared to enter directly into engineering practice or to continue further education at the graduate level.

The heart of the engineering program is a core which includes courses in mathematics, physics, chemistry, basic engineering sciences, social sciences and the humanities and provides a firm basis for more specialized knowledge. During the first 2½ years all students in engineering take the same program emphasizing the interrelationship of the primary engineering subjects which form the broad background required of modern-day engineers. During the junior and senior years, a student chooses a minimum of 27 units of technical electives to complete a program with enough specialization in an area of emphasis to initiate a successful engineering career.

The program of 138 semester units presumes that the entering student brings a high school preparation which includes geometry, trigonometry, two years of algebra and one year of physics or chemistry. Students deficient in mathematics or chemistry must take special preparatory courses, i.e., Mathematics 100, Precalculus Mathematics, or equivalent, and Chemistry 115, which will not carry credit for graduation.

All courses, taken by engineering majors in fulfillment of the requirements for the Bachelor of Science in Engineering degree, that are in the areas of mathematics, science or engineering, must be taken under Grade Option 1. That is, such courses must be taken for a grade of A, B, C, D or F in the traditional manner.

Transfer Students

A transfer student shall complete a minimum of 30 units in residence of which at least 15 shall be taken in upper-division engineering courses. Work taken at another college or university on which a grade of D was earned may not be substituted for upper-division courses.

A smooth transition from a community college into upper-division engineering is assured when the following program, as a minimum, has been completed. Students deficient in any of these areas may look to the summer session bulletin for offerings that may make up any deficiencies:

	Minimum Number of Semester Units
Analytical geometry and calculus	16
Chemistry (for engineering and science majors)	8
Physics (for engineering and science majors)	12
Engineering graphics	3
Properties of engineering materials	3
Computer programming (FORTRAN)	3
Analytical mechanics (statics)	3

Engineering Liaison Committee Statement

The Division of Engineering subscribes to the following statement approved by the Engineering Liaison Committee of the State of California:

> Based on the 1970–71 requirements, any student of a California community college, with a stated major in engineering, who presents a transcript showing satisfactory completion of the following proposed core program in lower division, will be able to enroll in this institution with regular junior standing; and further, assuming normal progress, said student can complete an engineering program in four additional semesters with a regular bachelor's degree, presuming, upon transfer, that at least 50 percent of the graduation unit requirements in that program have been completed. Completion of a specific program will be dependent upon proper selection of elective courses.

Subject Area	*Semester Units*	*Quarter Units*
Mathematics (beginning with analytical geometry and calculus and completing a course in ordinary differential equations)	16	24

Chemistry (for engineers and scientists)	8	12
Physics (for engineers and scientists)	12	18
Statics	3	4
Graphics and descriptive geometry	3	4
Computers (digital)	3	4
Orientation and motivation	1	1
Properties of materials	3	4
Electric circuits	3	4
Electives	11–15	17–23

TECHNICAL ELECTIVES

The student chooses an emphasis during the junior year or earlier in civil engineering and engineering mechanics, electrical engineering or mechanical engineering. Within the overall concept of a broad general background with enough specialization to become a productive engineer upon graduation, a student may further specialize in such areas as computer engineering, electronics, communications, control systems, power and energy, design and materials, thermal and fluids engineering, structural systems and design, applied mechanics, water resources and soils engineering.

After choosing an emphasis the student shall submit a proposed study plan consisting of at least 27 units of upper-division technical courses to the faculty adviser for approval. Approval must be granted before the end of the student's fifth semester.

While the study plan need not be contained within one area of emphasis, it shall include a sufficient number of courses to provide continuity and depth of understanding within a given area of specialization. It shall also include two senior laboratory courses and one design course and the prerequisite courses thereto. This study plan must be approved by the student's adviser before taking any technical electives. Every engineering student will be expected to have completed Engineering 205 before beginning the technical elective program.

Students who want to be considered for an engineering science program, should file a special application to the dean of the School of Mathematics, Science, and Engineering by the end of the fourth semester. The program in engineering science is to be selected by the student and adviser and submitted for approval to a committee of the engineering faculty (supplemented, if appropriate, by members of the science and mathematics faculty). Such a program must include the two senior engineering laboratories and senior engineering design course and their prerequisites. Courses are to be selected from upper-division engineering, science and mathematics offerings to meet a special and specific engineering science objective of the student such as engineering physics.

MINIMUM REQUIREMENTS FOR UNDERGRADUATE DEGREE

Lower Division Science and Mathematics (All required for B.S.)

	Units
Math 150A,B Analytic Geometry and Calculus	8
Math 250A Intermediate Calculus	4
Math 250B Linear Algebra with Differential Equations	4
Chem 120A General Chemistry	5
Chem 125 General Chemistry for Engineers	3
Physics 225A,B,C Fundamental Physics	9
Physics 226A,B,C Fundamental Physics Laboratory	3
	36

GENERAL EDUCATION

To meet the general education requirements for the bachelor's degree, the engineering student must take at least 33 units from the list of general education courses approved by the university for engineering majors (detailed list available in the engineering departments and Academic Advisement Center). The engineering general education requirements are similar to *but not the same as* the university general education requirements. Selection of the 33 units must meet the following requirements:

	Units
I. Statutory Requirements in American Institutions and Values—six units	
A.* Political Science 100	3
B.* History 180 or American Studies 201	3
	6

* The courses are the same as the university general education requirements.

II. Basic Subjects—13 units
- A.* Writing Skills in English (three units) Communications 103 or English 101 — 3
- B. Logical and Mathematical Skills (seven units)
  Engineering 205 and Math 150A — 7
- C. Language Skills (three units)
  Speech Communication 100 or 102 or 200 — 3

13

III. Foundations—24 units
- A. Western Civilization (nine units)
  - 1.* The History of Western Civilization (six units)
    History 110A,B — 6
  - 2.* Arts and Humanities (3 units)
    Art 201A,B or
    English 110, 111, or
    Music 100, or
    Religious Studies 345A, 346A, or
    Theater 175 — 3
- B. Fundamentals of Natural Science (seven units)
  - 1. Physical Science (four units)
    Physics 225A *and* 226A — 4
  - 2.* Biological Science (three or four units)
    Biological Science 101 — 3
- C. Fundamentals of Social Science (two units)
  Engineering 314 — 2
- D. Introduction to the Arts and Humanities (six units)
  - 1.* Arts (three units)
    Art 101, or Music 101 or Theater 100, 101 — 3
  - 2. Humanities (3 units)
    Must be upper division.
    English 311, 312, 321, 322, or
    French 315, 375 or
    German 315, 375, or
    Linguistics 354, or
    Philosophy 310, or
    Portuguese 315, or
    Spanish 315, 316, 375 — 3

24

IV. Alternatives within Natural Science—five units
Chemistry 120A — 5

V. Explorations—three units
Must be upper division.
Afro-Ethnic Studies 301, 311, 314, 346, 352, 422
American Studies 301, 411, 345, 386A,B
Anthropology 321, 325, 326, 328, 340, 345, 347, 321
Chicano Studies 336
Comparative Literature 352
Economics 332, 333
English 352
Geography 333, 344, 346
History 350, 360, 370, 386A,B, 488
Music 350, 361a–h, 362A,C,D,E,G,H,L,P,X,Z, 363b–x, 365I,K,V, 400
Philosophy 341, 350
Physical Education 381
Sociology 431, 436
Spanish 316
Speech Communication 320
Theater 310, 411, 436A,B — 3

Total general education — 51

* The courses are the same as the university general education requirements.

Lower-Division Engineering Core (All required for B.S.)

EG–ME 102 Graphical Communications	3
EG–CE 201 Mechanics	3
EG–ME 202 Material Science	3
EG–EE 203 Electric Circuits	3
EG–EE 203L Electric Circuits Laboratory	1
Egr 205 Digital Computation	3
	16

Upper-Division Engineering Core (All required for B.S.)

EG–CE 301 Strength of Materials	3
EG–CE 302 Dynamics	3
EG–EE 303 Electronics	4
EG–EE 303L Electronics Laboratory	1
EG–ME 304 Thermodynamics	3
EG–ME 305 Transport Processes	3
EG–ME 306A Unified Laboratory	1
EG–ME 306B Unified Laboratory	2
Egr 308 Engineering Analysis	3
Egr 314 Engineering Economy	2
Egr 370 Seminar in Engineering	1
	26
Technical Electives	27
Total	138
Upper-Division Writing Requirement	3

DETAILED OUTLINE OF TYPICAL EIGHT-SEMESTER PROGRAM * FOR B.S. IN ENGINEERING (138 units)

Semester 1 Freshman	*Units*
General education elective	3
Math 150A Calculus	4
Chemistry 120A General Chemistry	5
EG-ME 102 Graphical Communications	3
	15

Semester 2 Freshman	
General education elective	3
Math 150B Calculus	4
Physics 225A Fundamental Physics (Mechanics)	3
Physics 226A Fund Physics Lab (Mechanics)	1
Chemistry 125 General Chemistry for Engineers	3
Egr 205 Digital Computation	3
	17

Semester 3 Sophomore	
General education electives	6
Math 250A Intermediate Calculus	4
Physics 225B Fund Physics (Elect and Magnetism)	3
Physics 226B Fund Physics Laboratory	1
EG-CE 201 Mechanics	3
	17

Semester 4 Sophomore	
General education electives	3
Math 250B Linear Algebra with Differential Equ	4
EG–ME 202 Material Science	3
EG–EE 203 Electric Circuits	3
EG–EE 203L Electric Circuits Laboratory	1
Physics 225C Fundamental (Modern Physics)	3
Physics 226C Fundamental Physics Laboratory	1
	18

* This program is merely a guide. The student may lighten the academic load each semester to meet individual needs.

Semester 5 Junior

General education electives	6
EG–ME 304 Thermodynamics	3
EG–ME 305 Transport Processes	3
EG–CE 302 Dynamics	3
Egr 308 Engineering Analysis	3
EG–ME 306A Unified Laboratory	1
	19

Semester 6 Junior

EG–CE 301 Strength of Materials	3
EG–EE 303 Electronics	4
EG–EE 303L Electronics Laboratory	1
EG–ME 306B Unified Laboratory	2
Engineering technical electives	6
	16

Semester 7 Senior

General education electives	3
Egr 314 Engineering Economy	2
Engineering technical electives	12
	17

Semester 8 Senior

General education electives	9
Engineering technical electives	9
Egr 370 Seminar in Engineering	1
	19
Total	138

MASTER OF SCIENCE IN ENGINEERING

See "Graduate Programs."

GENERAL ENGINEERING COURSES

205 Digital Computation (3)

Prerequisite: college algebra or three years of high school mathematics including a second course in algebra. Computers and their numerical applications. Elementary FORTRAN programming language, digital computation methods in statistics and solving algebraic equations.

308 Engineering Analysis (3)

Prerequisites: Physics 225B, Math 250B or consent of instructor. Fundamentals and engineering applications of Fourier series, Fourier transforms, Laplace transforms, complex analysis, vector analysis; engineering applications.

314 Engineering Economy (2)

Prerequisite: upper-division standing in engineering. Development, evaluation and presentation of alternatives for engineering systems and projects using principles of engineering economy and cost benefit analysis.

370 Seminar in Engineering (1)

Prerequisite: senior standing in engineering. The engineering profession, professional ethics, and related topics. May be repeated once for credit with the approval of the department chair.

403 Computer Methods in Numerical Analysis (3)

Prerequisites: Math 250B and Egr 205 or equivalent. The use of numerical methods and digital computers in the solution of algebraic, transcendental, simultaneous, ordinary and partial differential equations.

423 Engineering Probability and Statistics (3)
Prerequisite: Math 250A. Discrete and continuous random variables, probability distribution and density functions, stochastic processes, correlation functions and power spectral densities.

490 Professional Practice (1)
Prerequisites: upper-division standing in engineering program and consent of instructor. Professional engineering work in industry or government. Written report required. May be repeated for credit, for a maximum of eight units. Maximum of three units is applicable towards a B.S. in Engineering. Not for credit in the graduate program.

491 Analytical Methods in Engineering (3)
Prerequisite: Egr 308 or consent of instructor. Differential equations with constant and variable coefficients; orthogonal functions; conformal mapping; potential theory; engineering applications.

CIVIL ENGINEERING AND ENGINEERING MECHANICS

Students pursuing an emphasis in CE/EM must take a minimum of 27 units of technical electives that must be approved by the student's adviser and the chair of Civil Engineering and Engineering Mechanics. Specialization is available in the following areas of civil engineering. Other engineering courses may be taken with the approval of the student's adviser provided they contribute to a meaningful technical elective program.

Required Courses for Emphasis in Civil Engineering/Engineering Mechanics		*Units*
EG–CE 324	Soil Mechanics	3
EG–CE 324L	Soil Mechanics Lab	1
EG–CE 325	Structural Analysis	3
EG–CE 325L	Structural Analysis Lab	1
EG–CE 377	Civil Engineering Materials Lab	1
EG–CE 428	Hydraulics	3
EG–CE 428L	Hydraulics Lab	1

Technical Electives

1. Structural Engineering (16 Units)

EG–CE 408	Reinforced Concrete Design	3
EG–CE 418	Foundation Design	3
EG–CE 430	Design of Steel Structures	3
EG–CE 494	Design of Civil Engineering Structures	4
EG–CE xxx	Technical elective EG-CE 411/EG-CE 468	3

2. Geotechnical Engineering

EG–CE 408	Reinforced Concrete Design	3
EG–CE 418	Foundation Design	3
EG–CE 468	Engineering Construction	3
EG–CE xxx	Adviser-approved technical electives	6

3. Water Resources Engineering

EG–CE 408	Reinforced Concrete Design	3
EG–CE 418	Foundation Design	3
EG–CE 435	Design of Water Systems	3
EG–CE 436	Engineering Hydrology	3
EG–CE xxx	Adviser-approved technical elective	3

4. Engineering Mechanics

EG–ME 333	Fluid Mechanics and Aerodynamics	3
EG–EE 409	Introduction to Linear Systems	3
EG–CE 411	Dynamics of Structures	3
EG–CE xxx	Adviser-approved technical electives	6

CIVIL ENGINEERING COURSES

201 Mechanics (3)
Prerequisites: Math 150B and Physics 225A. The fundamentals of statics with engineering applications.

214 Engineering Surveying (2)
Prerequisite: EG-ME 102. Corequisite: EG-CE 214L. Theory and practice of measurements for distance, elevations and angles. Analyses and adjustments for systematic and random measurement errors, traverse computation, horizontal and vertical curves.

214L Engineering Surveying Laboratory (1)
Corequisite: EG-CE 214. Field practice of measurement of distance with a chain and stadia, horizontal and vertical angles with a theodolite, closed traverse, differential leveling, horizontal and vertical curve layout and locating stakes for highway construction. (3 hours laboratory)

301 Strength of Materials (3)
Prerequisites: Math 250A and EG-CE 201. States of stress and strain. Analysis and design of structural elements (pressure vessels, beams, torsion bars, springs), fracture criteria, statically indeterminate problems, energy methods, buckling of columns.

302 Dynamics (3)
Prerequisites: Math 250A and EG-CE 201. Kinematics and kinetics of particles and rigid bodies, Newton's laws, work and energy, impulse and momentum. Solution of problems by using vector approach.

324 Soil Mechanics (3)
Prerequisite: EG-CE 301. Soil properties and soil action as related to problems encountered in engineering structures; consolidation, shear strength, stability and lateral earth pressures.

324L Soil Mechanics Laboratory (1) (Formerly 1 unit of 377A)
Corequisite: EG-CE 324. Behavior and properties of soils. Application to foundation design, liquefaction and seepage.

325 Structural Analysis (3) (Formerly 427)
Prerequisite: EG-CE 301. Determinate and indeterminate structures, such as continuous beams, frames, grids, arches, trusses, curved beams, using slope and deflection method, moment distribution method, elastic energy approach. Temperature effect, foundation settlement, secondary stresses. Nonprismatic members.

325L Structural Analysis Laboratory (1) (Formerly 1 unit of Egr 377B)
Corequisite: EG-CE 325. Principles of model analysis and similitude. Influence lines for reactive and internal forces of statically indeterminate structures. Nonprismatic members; deformations of statically indeterminate structures; effects of support settlements; thermal effects or fabrication errors. (3 hours laboratory)

377 Civil Engineering Laboratory (1)
Corequisite: EG-CE 324. The behavior and properties of soil, cement, concrete and bituminous materials. (3 hours laboratory)

408 Reinforced Concrete Design (3)
Prerequisite: EG-CE 325 or equivalent. Theory of reinforced concrete. Design of reinforced concrete slabs, beams, columns, buildings and bridges. Prestressed concrete.

411 Dynamics of Structures (3)
Prerequisites: EG-CE 301, 302 and Egr 308 or equivalent. Free and forced vibrations of discrete systems, response of structures to impulse loads and earthquakes. Matrix formulation and normal coordinates analysis. Vibration of beams.

418 Foundation Design (3)
Prerequisites: EG-CE 324, 325 and 408. Subsurface exploration. Design of footings; retaining walls, mat and piled foundations for structures.

428 Engineering Hydraulics (3)
Prerequisite: EG-ME 305. Analysis of incompressible fluid flow in closed conduits and open channels. Energy and hydraulic grade lines, friction formulas, pipeline systems, pumps, uniform and nonuniform flows, critical flow, flow in trapezoidal and circular channels, hydraulic models.

428L Engineering Hydraulics Laboratory (1) (Formerly 1 unit of 377B)
Corequisite: EG-CE 428. Development of experimental techniques utilized in hydraulics. Experiments demonstrate basic principles of flow in open channels and in closed conduits. (3 hours laboratory)

430 Design of Steel Structures (3)
Prerequisite: EG-CE 325. Design of steel structures; design of built-up girders, moment connections, light gage metal members. Torsion and unsymmetrical bending of beams, buckling of beams and columns. Design for wind and earthquake forces. The use of the latest AISC design code.

435 Design of Water Systems (3)
Prerequisite: EG-CE 428 or equivalent. Hydraulic design of dams, water distribution networks and storm drain systems. Topics include forces on dams, outlet works, spillways, flood control, pipeline networks, equivalent pipes, Hardy Cross method, computer methods, storm drain hydrology junction analysis, catch basins, inlets.

436 Engineering Hydrology (3)
Corequisite: EG-CE 428. The hydrologic cycle with applications to the hydrologic design of engineering structures. Rainfall, runoff, urban hydrology, statistical hydrology.

468 Engineering Construction (3)
Prerequisites: EG-CE 324 and 494. Engineering construction planning, equipment and methods. Construction management. Critical path method. Construction of buildings, bridges, highways, foundations and dams.

494 Design of Civil Engineering Structures (4) (Formerly 326)
Prerequisites: EG-CE 418 and 430. Timber, concrete, steel and masonry design using Uniform Building code. Design of buildings and bridges. Structural design of a complete project to the standard of professional practice.

495 Civil Engineering Professional Practice (1)
Prerequisite: senior standing in engineering. Discussion of civil engineering as a profession and the civil engineer as a professional, career opportunities in private sectors and in government. Office and field practice. Professional growth and development. Project management. Business management and opportunities.

497 Senior Projects (1–3)
Prerequisite: consent of adviser and instructor. Directed independent design project.

499 Independent Study (1–3)
Prerequisite: approval of study plan by adviser. Specialized topics in engineering selected in consultation with and completed under the supervision of the instructor. May be repeated for credit.

509 Theory of Plates and Shells (3)
Prerequisites: EG-CE 301 and Egr 491 or equivalent. Theory of plates bent by transverse loads; applications to circular, retangular, other shapes. Theory of thin shells; shells of revolution; shells of translation.

510 The Finite Element Method (3)
Prerequisites: EG-CE 517 and 533. Finite elements of a continuum. Stress analysis of: plane stress and plane strain problems; axi-symmetric bodies; and plates and shells. Conforming and nonconforming shape functions. Problems of vibration and stability. Applications using the digital computer.

517 Theory of Elasticity (3)
Prerequisites: EG-CE 301 and Egr 491. The differential equations which govern the behavior of an elastic solid, and their applications to a variety of problems in two and three dimensions using various coordinate systems.

529 Open Channel Hydraulics (3)
Prerequisite: EG-CE 428 or equivalent. Theory of uniform and varied flow in open channels and applications to the analysis and design of open channels and control structures.

532 Earthquake Engineering (3)
Prerequisite: EG-CE 408, 411 and 430 or equivalent. Characteristics of earthquake motions; spectral analysis of ground motions; structural response of linear systems; computational methods; behavior of materials and structural components due to earthquake loading; basic concepts of earthquake-resistant design; soil-structure interaction; evaluation of current earthquake codes.

533 Matrix Analysis of Structures (3)
Prerequisites: EG-CE 325 and Egr 403 or equivalent. Matrix formulation of structural analysis; flexibility and stiffness methods; direct stiffness approach; applications using the digital computer; introduction to the finite element method.

544A Advanced Foundation Engineering (3)
Prerequisites: EG-CE 324 and 418. Beam on elastic foundations. Raft foundations. Retaining walls. Pile groups and pier foundations. Soil structure interaction. Foundations on expansive soils.

548 Soil Dynamics and Foundation Engineering (3)
Prerequisites: EG-CE 324 and 418. Wave propagation in soils. Dynamic behavior of soils. Blast effects. Analysis and design of dynamically loaded foundations. Earthquake design of dams and foundations of structures.

549 Theory of Elastic Stability (3)
Prerequisites: Egr 491 and EG-CE 509 or equivalent. Critical loads of columns, beam columns, plates, shells; lateral stability of beams, torsional buckling of open sections, stability of the frames; dynamic stability of elastic systems.

563 Design of Prestressed Concrete Structures (3)
Prerequisite: EG-CE 408. Prestressed concrete theory. Structural behavior and design applications to various types of prestressed concrete structural elements and systems.

597 Project (1–6)
Prerequisites: consent of adviser and Civil Engineering chair.

598 Thesis (1–6)
Prerequisites: consent of adviser and Civil Engineering chair.

599 Independent Graduate Research (1–3)
Prerequisite: classified graduate status. Open to graduate students only by consent of Civil Engineering Graduate Committee. May be repeated for credit only upon approval of this committee.

ELECTRICAL ENGINEERING

Required courses for Emphasis in Electrical Engineering:

		Units
EG–EE 309	Network Analysis	3
EG–EE 310	Electronic Circuits	3
EG–EE 311	Field Theory and Transmission Lines	3
EG–EE 312	Digital Logic Design	3
EG–EE 313	Introduction to Electromechanics	3
EG–EE 375A,B	Electrical Engineering Laboratory	2
EG–EE 384	Introduction to Electronic Design	1
EG–EE 385	Electrical Engineering Design Projects Lab	2
EG–EE 409	Introduction to Linear Systems	3

In addition to the above required courses, a student pursuing an emphasis in Electrical Engineering will complete at least 5 units of adviser-approved course work, including at least one laboratory course. It is recognized that a course and a laboratory will not provide depth; therefore, it is strongly recommended that students take 2 or 3 courses and may petition these courses for post-graduate credits.

Technical Electives

1. Electronic Circuits		*Units*
EG–EE 312L	Digital Logic Laboratory	2
EG–EE 404	Introduction to Microprocessors and Microcomputers	3
EG–EE 404L	Microprocessor Laboratory	1
EG–EE 442	Electronic Circuits	3
EG–EE 445	Pulse and Digital Circuits	3
EG–EE 445L	Pulse and Digital Circuits Laboratory	2
EG–EE 448	Digital Systems Design	3
EG–EE 455	Solid State Electronics	3
2. Electronic Communications		
EG–EE 312L	Digital Logic Laboratory	2
EG–EE 420	Introduction to Digital Filtering	3
Egr 423	Engineering Probability and Statistics	3
EG–EE 442	Electronic Circuits	3
EG–EE 443	Electronic Communication Systems	3

EG–EE 445	Pulse and Digital Circuits	3
EG–EE 445L	Pulse and Digital Circuits Laboratory	2
EG–EE 448	Digital Systems Design	3

3. Control Systems

EG–EE 312L	Digital Logic Laboratory	2
EG–EE 404	Introduction to Microprocessors and Microcomputers	3
EG–EE 404L	Microprocessor Laboratory	1
EG–EE 416	Feedback Control Systems	3
EG–EE 420	Introduction to Digital Filtering	3
Egr 423	Engineering Probability and Statistics	3
EG–EE 424	Computer Simulation of Continuous Systems	3

4. Computer Engineering

EG–EE 312L	Digital Logic Laboratory	2
Egr 403	Computer Methods in Numerical Analysis	3
EG–EE 404	Introduction to Microprocessors and Microcomputers	3
EG–EE 404L	Microprocessor Laboratory	1
EG–EE 405	Digital Computer Design and Organization	3
EG–EE 405L	Digital Computer Design Laboratory	3
EG–EE 420	Introduction to Digital Filtering	3
EG–EE 442	Electronic Circuits	3
EG–EE 445	Pulse and Digital Circuits	3
EG–EE 445L	Pulse and Digital Circuits Laboratory	2
EG–EE 448	Digital Systems Design	3
EG–EE 455	Solid State Electronics	3

ELECTRICAL ENGINEERING COURSES

203 Electric Circuits (3)

Prerequisites: Physics 225B and Math 250A. Ohm's and Kirchhoff's laws; mesh and nodal analysis; basic network theorems; RL and RC transients; phasors and steady-state sinusoidal analysis; current, voltage and power relationships; polyphase circuits; magnetic coupling; elementary transformers and electrical machines.

203L Electric Circuits Laboratory (1)

Prerequisite or corequisite: EG-EE 203. Simple resistive RL and RC circuits; electrical measurement techniques; transformers; performance tests on electrical machines. (3 hours laboratory)

303 Electronics (4)

Prerequisites: Physics 225C, EG-EE 203 and 203L; corequisite: EG-EE 303L. Characteristics and applications of semiconductor diodes; the p-n junction, field-effect transistors, bipolar-junction transistors, applications to wave shaping and digital circuits and operational amplifiers; two-port linear models.

303L Electronic Laboratory (1)

Corequisite: EG-EE 303. Semiconductor diodes, transistors, and elementary electronic circuits. (3 hours laboratory)

309 Network Analysis (3)

Prerequisites: EG-EE 203 and 203L; Egr 205 and 308. Performance of RLC circuits; complex frequency and the s-plane; frequency response and resonance; network topology; two-port network characterization; classical filter theory.

310 Electronic Circuits (3)

Prerequisites: Egr 205, EG-EE 303 and Egr 308. Continuation of 303, multistage amplifiers and feedback; frequency characteristics of amplifiers, frequency characteristics and stability of feedback amplifiers, oscillators and operational amplifiers.

311 Field Theory and Transmission Lines (3)

Prerequisites: Physics 225B and Math 250B. Electrostatics and magnetostatics; boundary value problems; magnetic materials and the magnetic circuit; magnetic induction; Maxwell's equations and the formulation of circuit concepts; transmission lines.

312 Digital Logic Design (3)
Prerequisites: Computer Sci 210 or EG-EE 303. Digital computers, Boolean algebra, number representations. Analysis, simplification and synthesis of combinational and sequential networks.

312L Digital Logic Laboratory (2)
Corequisite: EG-EE 312. Digital logic circuits; decoders, counters, serial and parallel adders, control circuits. (1 hour lecture, 3 hours laboratory)

313 Introduction to Electromechanics (3)
Prerequisites: EG-EE 309. Electromagnetic fields and circuits; transformers, saturation effects. Simple electro-mechanical systems. Circuit models, terminal characteristics and applications of DC and AC machines.

375A Electrical Engineering Laboratory (1)
Prerequisite: EG-EE 309; corequisites: EG-EE 313, 384. Filter and dynamic systems simulation using analog computers; transformers; and AC and DC machines. (3 hours laboratory)

375B Electrical Engineering Laboratory (1)
Prerequisite: EG-EE 309; corequisites: EG-EE 310, 311 and 384. Multistage and feedback amplifiers; linear and digital IC's; slotted-line measurements. (3 hours laboratory)

384 Introduction to Electronic Design (1)
Corequisites: EG-EE 375A,B. The design of electronic circuits and subsystems. Each student will initiate a specific project which will be completed under the follow-on design projects course.

385 Electrical Engineering Design Projects Laboratory (2)
Prerequisites: EG-EE 375A,B and 384. The application of fundamental engineering principles to typical design problems in the field of electrical engineering. (6 hours laboratory)

404 Introduction to Microprocessors and Microcomputers (3)
Prerequisite: EG-EE 312, 312L and Computer Sci 210. Microprocessors; LSI technology for μ-processors, MSI circuits, μ-processor family chips, system organization, cpu, system controller, clock, timing diagrams, ROM, RAM, UART, and Input/Output system. (Same as Computer Science 404)

404L Microprocessor Laboratory (1)
Prerequisites: EG-EE 312, 312L, and Computer Sci 210; corequisite: EG-EE 404. Hands-on experience on microprocessor systems; 6502 family chips, z-80 μ-processor system monitor, cross-assembler, assembly language programming, I/O interfacing. (3 hours laboratory)

405 Digital Computer Design and Organization (3)
Prerequisites: EG-EE 312 and either Computer Sci 210 or consent of instructor. Digital Computer organization; arithmetic operations: addition, subtraction, multiplication, division; control unit: instruction format, types, acquisition, execution; memory unit: organization, types, hierarchies; input-output unit: methods, data, organization.

405L Digital Computer Design Laboratory (3)
Prerequisites: EG-EE 303L, 312, 312L and 405. Design and implementation of a small digital computer; adders, arithmetic unit, control unit, memory control unit, memory unit and program unit. May be taken in lieu of EG-EE 384 and 385. (1 hour lecture, 6 hours laboratory)

409 Introduction to Linear Systems (3)
Prerequisites: EG-EE 203, EG-CE 302 and Egr 308. Development of time and frequency domain models for physical systems. The linearization process and representation with block diagrams and signal flow graphs; discrete-time systems and digital signals including use of Z-transforms; stability theory of continuous and discrete time systems.

416 Feedback Control Systems (3)
Prerequisite: EG-EE 409. Feedback control system characteristics; analysis and design of continuous-time systems using root-locus and Bode plots; stability and compensation of discrete-time and continuous-time systems.

420 Introduction to Digital Filtering (3)
Prerequisites: Egr 205 and EG-EE 409. Sampling and quantization of continuous signals; discrete systems; recursive and nonrecursive filters; discrete and fast Fourier transforms.

424 Computer Simulation of Continuous Systems (3)
Prerequisites: Egr 205 and Math 250B. Use of the digital computer for simulation of physical systems modeled by ordinary differential equations; problem formulation, in-depth analysis of two integration methods, and the use of a general purpose system simulation program such as CSSL.

442 Electronic Circuits (3)
Prerequisites: EG-EE 309 and 310. Continuation of EG-EE 310. Power amplifiers and tuned ampifiers; RF amplifiers; modulation and detection circuits; oscillators; and operational amplifier applications.

443 Electronic Communication Systems (3)
Prerequisite: EG-EE 310. Principles of amplitude, angular and pulse modulation, representative communication systems, the effects of noise on system performance.

445 Digital Electronics (3)
Prerequisites: EG-EE 303 and Egr 308. RC circuit, attenuator, compensation and scope probe. Logic circuits; DTL, TTL, STTL, LSTTL and ECL fanout. Noise immunity. Switching speed. Power consumption. Input output characteristics. MOS logic circuits; PMOS, NMOS and CMOS gates. Flip-flops, shift registers and memory circuits.

445L Pulse and Digital Circuits Laboratory (2)
Corequisite: EG-EE 445. Logic circuits, switching circuits, gates, timing circuits and special waveform generating circuits. (1 hour lecture, 3 hours laboratory)

448 Digital Systems Design (3)
Prerequisites: EG-EE 303, 303L, 312, 312L and 445. Practical aspect of digital system design. MSI and LSI chips; ROM, PROM and RAM memories; noise, loading and termination problems; logic design documentation, design of computer interface, servo controller or data logger system.

455 Solid State Electronics (3)
Prerequisites: EG-EE 303 and 311. Quantum mechanical principles, atomic structure, crystal structure, crystal defect and diffusion, lattice vibration and phonons, energy band theory, charge transport phenomena, free electron theory of metal, intrinsic and extrinsic semiconductors, p-n junction theory, transistor theory.

497 Senior Project (1–3)
Prerequisite: consent of adviser and instructor. Directed independent design project.

499 Independent Study (1–3)
Prerequisite: approval of study plan by adviser. Specialized topics in engineering selected in consultation with and completed under the supervision of the instructor. May be repeated for credit.

502 Electromagnetics (3)
Prerequisites: EG-EE 311 and Egr 403. Electric and magnetic fields produced by and forces exerted on charge, current, dielectric, magnetic and conducting material distributions, induction phenomena. Reduction of field theory to circuit theory; capacitance, resistance and inductance. Potential theory. Relativistic electrodynamics. Formulation in terms of vector and tensor notation, solution via analytic and numerical methods.

503 Information Theory and Coding (3)
Prerequsite: Egr 423. Information measures, probabilistic studies of the transmission and encoding of information, Shannon's fundamental theorems, coding for noisy channels.

504A Linear Network Synthesis (3)
Prerequisite: EG-EE 310. Synthesis of passive element driving-point and transfer-functions with emphasis on RC networks. Basic operational amplifier RC circuits and their performance limitations, introduction to second-order RC active filters. Parameter sensitivity analysis.

504B Linear Active Networks (3)
Prerequisite: EG-EE 504A. Cascade realizations of RC active filters utilizing low-gain and infinite-gain amplifiers; state-variable filter realizations of high-Q filters; gyrators and generalized impedance converters. RC filters using active feedforward and feedback circuits.

505 Control System Design (3)
Prerequisite: EG-EE 416. Design of compensators for continuous-time and discrete-time systems; introduction to nonlinear control systems; phase-plane analysis; applications of Lyapunov stability theory to design.

506 Advanced Digital Computer Systems (3)
Prerequisite: EG-EE 405. Computer system structure, mini-computers, medium and large-scale computer systems, micro-progamming, micro- and mini-computers, time-sharing and multi-processor computer systems.

507 Detection Theory (3)
Prerequisite: EG-EE 580. Formulation of decision rules for the detection of signals in a noisy environment, optimum receivers. Estimation of parameters of detected signals. Estimation theory.

513 Optimal Control Systems (3)
Prerequisite: EG-EE 581. Formulation of optimal control problems; the calculus of variations; the maximum principle; studies of minimum-time and minimum-energy problems; dynamic programming.

514 Introduction to Optical Electronics (3)
Prerequisite: EG-EE 311. Review of Maxwell's equations. Propagation, optical resonators, interaction of radiation and atomic systems, laser oscillations, laser systems, noise in optical systems, detection of optical radiation, optical communication systems, holography.

518A Digital Signal Processing I (3)
Prerequisites: EG-EE 409 and 420. Discrete-time signals, discrete-time random signals, spectral analysis, generation and shaping of pseudorandom signals, FII and FIR realization, poser spectrum estimation.

518B Digital Signal Processing II (3)
Prerequisite: EG-EE 518A. Flow graph and matrix representation of digital filters, finite word length effect in digital filters, two-dimensional signal processing, applications to speech processing, homomorphic signal processing.

523A Solid State Devices and Integrated Circuits (3)
Prerequisite: EG-EE 455. Solid state fabrication technologies: diffusion, epitaxy, metallization, photolithography. Solid state device design principles; diodes, transistors, FETS, linear integrated circuits, digital integrated circuits.

523B Large Scale Integrated Circuits (3)
Prerequisites: EG-EE 312 and 523A. Design and analysis of large scale integrated circuits. p- and n-channel MOS circuits; complementary MOS circuits; static and dynamic circuits; integrated injection logic circuits; shift register design; read-only memory and random access memory design; computer-aided and other logic circuit design.

527 Fault Diagnosis and Finite Automata (3)
Prerequisite: EG-EE 312. Advanced logic design, threshold and quadded logic, asynchronous circuits, pulse and fundamental modes, sequential machines, fault detection and diagnosis of digital systems, and finite state recognizers.

531 Phase-Locked and Frequency Feedback Systems (3)
Prerequisite: EG-EE 580 or consent of instructor. Theory of noise and linear systems, FM feedback principles. Theory and design of phase-locked loops and their applications in communication and control.

558 Microprocessors and System Applications (3)
Prerequisites: EG-EE 404 and 404L. Microprocessors and microcomputers, their related software systems, system design with microprocessors, applications in peripheral controllers, communication devices and multiprocessing systems, emphasis on 16 and 32 bits processors.

572 Seminar: Topics in Control Theory (3)
Prerequisites: EG-EE 581 and consent of instructor. Offered once each year with course content varied. Topics: system identification, numerical methods for optimal control computations, nonlinear system theory, and advanced digital control. May be repeated for credit with consent of instructor.

580 Analysis of Random Signals (3)
Prerequisites: EG-EE 409 and Egr 423. Random processes pertinent to communications, controls and other physical applications, Markov sequences and processes, the orthogonality principle.

581 Theory of Linear Systems (3)
Prerequisites: Egr 403 and EG-EE 416. State space analysis, linear spaces, stability of systems; numerical methods of linear systems analysis and design.

582 Linear Estimation Theory (3)
Prerequisites: Egr 423 and EG-EE 581. Mathematical models of continuous-time and discrete-time stochastic processes; the Kalman filter, smoothing and suboptimal filtering computational studies.

585 Optimization Techniques in Systems Engineering (3)
Prerequisite: Egr 403. Calculus of variations, optimization of functions of several variables, Lagrange multipliers, gradient techniques, linear programming, and the simplex method, nonlinear and dynamic programming.

587 Operational Analysis Techniques in Systems Engineering (3)
Prerequisites: Egr 423 and EG-EE 585. Operational research models; applications of probability theory to realiability, quality control, waiting line theory, Markov chains; Monte Carlo methods.

592 Advanced Engineering Analysis (3)
Prerequisites: Egr 403 and 491 or equivalent. Partial differential equations in engineering; numerical techniques; integral equations; engineering applications.

597 Project (1–6)
Prerequisite: consent of adviser.

598 Thesis (1–6)
Prerequisite: consent of adviser.

599 Independent Graduate Research (1–3)
Prerequisite: classified graduate status. Open to graduate students only by consent of Electrical Engineering Graduate Committee. May be repeated for credit only upon approval of this committee.

MECHANICAL ENGINEERING

The B.S. program in mechanical engineering is designed to provide basic knowledge in the field of mechanical engineering. It is subdivided into three fundamental disciplines, including: power and energy; design and materials; thermal and fluids engineering. An undergraduate student may choose to specialize in one or more of these three disciplines depending on the student's own interest and professional goals. A total of 27 units of *adviser-approved* technical elective courses are required for the degree, of which 12 are required of all mechanical engineering students, and 15 are electives.

Required Courses for Emphasis in Mechanical Engineering		*Units*
EG–ME 335	Introduction to Mechanical Designs	3
EG–ME 335L	Mechanical Analysis Laboratory	1
EG–ME 376A	Mechanical Engineering Laboratory	2
EG–ME 376B	Mechanical Engineering Laboratory	2
EG–ME 421	Mechanical Design	3
EG–ME 421L	Mechanical Design Laboratory	1

Technical Electives

1. Power and Energy

EG–ME 316	Intermediate Thermodynamics	3
EG–ME 434	Energy Conversion and Power	3
EG–ME 447	Piping Selection and Piping Network Design	3
EG–ME 449	Internal Combustion Engines	3
EG–ME 450	Power Plant Engineering	3
EG–ME 451	Thermal Environmental Conditioning and Control	3
EG–ME 452	Fluid Machinery	3
EG–ME 472	Solar Energy and Engineering Applications	3
EG–ME 473	Introduction to Nuclear Engineering	3

2. Design and Materials

EG–ME 320	Metallurgy	3
EG–ME 331	Mechanical Behavior of Materials	3
EG–ME 406	Dynamics and Control of Mechanical Systems	3
EG–ME 459	Plastics and Other Non-Metallics	3
EG–ME 460	Failure of Engineering Materials	3
EG–ME 461	Fabrication Methods	3
EG–ME 473	Introduction to Nuclear Engineering	3
EG–ME 475	Engineering Acoustics	3
EG–ME 480	Human Factors in Design	3

3. Thermal and Fluids Engineering

EG–ME 316	Intermediate Thermodynamics	3
EG–ME 333	Fluid Mechanics and Aerodynamics	3
EG–ME 407	Heat Transfer	3
EG–ME 415	Gas Dynamics	3
EG–ME 447	Piping Selection and Piping Network Design	3
EG–ME 451	Thermal Environmental Conditioning and Control	3
EG–ME 452	Fluid Machinery	3

MECHANICAL ENGINEERING COURSES

102 Graphical Communications (3)

Graphics as a fundamental means of communication in design. Development of spatial visualization. Freehand sketching, shading, orthographic projection, oblique-isometric and perspective pictorials. Dimensioning, descriptive geometry, design procedure and design projects. (1 hour lecture, 6 hours laboratory)

202 Material Science (3)

Prerequisites: Chem 101 and Physics 225A. Scientific and engineering principles important in selection of materials in design. Stress, strain, electrical and magnetic properties. Crystalline structure and imperfections, environmental effects and other topics from material science. Metallic, organic and ceramic substances.

304 Thermodynamics (3)

Prerequisites: Chem 125, Math 150B and Physics 225A; corequisite: Egr 205 or consent of instructor. Energy and its transformation; heat and work; conservation of mass and energy, system properties irreversibility and availability. Ideal gases, heat engines and refrigeration (both ideal and actual).

305 Transport Processes (3)

Prerequisites: Math 250A and EG-CE 201. Principles of similitude and dimensional analysis. Fluid statics. One dimensional steady state heat conduction. Elements of radiative heat transfer. One dimensional steady flow analysis. Free and forced convective heat transfer in incompressible laminar and turbulent flow.

306A Unified Laboratory (1)

Pre- or corequisites: EG-ME 102, 202 and 305. Observations and measurements in the laboratory as an introduction to the experimental method. Static and dynamic measurements are made on simple engineering systems (beams, columns, pendulums, gyroscopes) using mechanical and electrical transducers. Report writing. (3 hours laboratory)

306B Unified Laboratory (2)

Prerequisite: EG-ME 305 and 306A. Continuation of EG-ME 306A. Flow measurement techniques using orifice plates, venturimeters. Pitot probes and nozzles. Temperature and pressure measurement. Experimental studies of fluid friction and heat exchanger performance. Role of the digital calculator and computer in data reduction and analysis. Formats for technical report writing. (1 hour lecture, 3 hours laboratory)

316 Intermediate Thermodynamics (3)

Prerequisites: Egr 205 and EG-ME 304. Continuation of EG-ME 304, additional coverage of power and refrigeration cycles. Maxwell's relations, mixtures of real and ideal fluids, chemical reactions (emphasis on combustion), phase and chemical equilibrium.

320 Metallurgy (3)

Prerequisite: EG-ME 202. Structure and properties of metals and alloys, influences of mechanical and thermal treatments, plastic deformation, work hardening and recrystallization, grain growth, alloy diagrams, solution hardening, diffusion hardening, precipitation hardening, the iron-carbon system, composite materials, brittle, creep and fatigue failures.

331 Mechanical Behavior of Materials (3)

Prerequisite: EG-ME 202. Plastic deformation and hardening mechanisms, creep phenomena. Fatigue. Behavior at cryogenic temperatures. Fabrication processes and their effects on properties. Testing of materials.

333 Fluid Mechanics and Aerodynamics (3)

Prerequisites: Egr 205 and EG-ME 305. Pipe flow analysis. Elements of compressible and open channel flows. Two dimensional inviscid flow analysis. Methods of flow measurements.

335 Introduction to Mechanical Design (3)

Prerequisites: Egr 205 and EG-CE 302; corequisite: EG-ME 335L. Kinematics and dynamics of mechanisms, design and analysis of linkage gears, cams, etc., using analytical and graphical techniques, balancing.

335L Mechanical Analysis Laboratory (1)
Prerequisite: EG-ME 102; corequisite: EG-ME 335. Analytical and graphical techniques will be used in solving engineering type problems in mechanical design. (3 hours laboratory)

376A Mechanical Engineering Laboratory (2)
Prerequisites: EG-CE 302, EG-EE 303, EG-ME 306B and Egr 308. Dynamic systems, vibration, acoustics and other mechanical subjects; analog and computer simulation of dynamic systems; and automatic data acquisition. (6 hours laboratory)

376B Mechanical Engineering Laboratory (2)
Prerequisite: EG-ME 306B. Mass transfer, heat transfer, and thermodynamic phenomena and their interaction with mechanical systems. (6 hours laboratory)

406 Dynamics and Control of Mechanical Systems (3)
Prerequisites: Egr 205, EG-CE 302 and Egr 308. Vibration analysis and vibration control, fundamentals of control-system analysis.

407 Heat Transfer (3)
Prerequisites: Egr 205, EG-ME 305 and Math 250B. Analysis of two- and three-dimensional steady and unsteady heat conduction, heat exchangers, forced and free convection for interior and exterior surfaces with laminar and turbulent flow, heat transfer with a change in phase.

415 Gas Dynamics (3)
Prerequisites: EG-ME 304 and 305. Thermodynamics of compressible fluid flow, normal and oblique shocks, flow through converging-diverging passages, flow in ducts with heating or cooling, interaction of shocks and expansion waves. Linearized 2-D flows, supersonic wind tunnel testing.

421 Mechanical Design (3)
Prerequisites: EG-CE 301 and EG-ME 335; corequisite: EG-ME 421L. The application of the principles learned in mechanics of rigid and deformable bodies to the proportioning of machine elements to engineering problems.

421L Mechanical Design Laboratory (1)
Corequisite: EG-ME 421. Analysis, formulation and solution of engineering type problems encountered in mechanical design. (3 hours laboratory)

434 Energy Conversion and Power (3)
Prerequisites: EG-EE 203 and EG-ME 304 and 305. The direct conversion of heat to electrical energy, thermoelectric, thermionic and magnetohydrodynamic devices, solar and fuel cells and exotic techniques.

447 Piping Selection and Piping Network Design (3)
Prerequisites: knowledge of fluid mechanics and strength of materials; consent of instructor. Pressure losses in piping networks; selection of piping based upon fluid, temperature, pressure and economic considerations; piping connections, fittings and components; stress analysis; review of national piping codes.

449 Internal Combustion Engines (3)
Prerequisites: EG-ME 304 and 305. Thermodynamics of cycles for internal combustion engines, including fuels and combustion. Performance characteristics of various types of IC engines. Including the following engines: Otto, Wankel, Diesel and gas turbine. Exhaust analysis and pollution control.

450 Power Plant Engineering (3)
Prerequisites: Egr 205 and EG-ME 304 and 305. Engineering principles and design methods applicable to modern electrical power generation facilities. Economics, heat transfer, steam generation, fuels and combustion, and equipment. Steam, gas, turbine, diesel, nuclear and hydroelectric plants are considered.

451 Thermal Environmental Conditioning and Control (3)
Prerequisites: EG-ME 304 and 305. The fundamentals of controlling the thermal environment within enclosed spaces. Theory and analysis of fundamental thermodynamics relating to thermal environmental engineering. Laboratory demonstrations of actual systems.

452 Fluid Machinery (3)
Prerequisites: EG-ME 304 and 305. The thermodynamics and fluid mechanics of flow through pumps, fans, turbines and compressors. Component selection and system performance evaluations.

459 Plastics and Other Non-Metallics (3)
Prerequisite: EG-ME 202. Simplified chemistry of plastics. Applications. Manufacturing processes. Methods for preventing deterioration of nonmetallic materials. Composites. Ceramics. Refractories. Wood. Destructive and nondestructive testing of nonmetallic materials.

460 Failure of Engineering Materials (3)
Prerequisite: EG-ME 202. Imperfections in solids; fracture initiation and crack propagation; dislocations; yield point phenomenon; fatigue; creep; ultrasonic effects; radiation damage; stress corrosion; hydrogen embrittlement; composite materials.

461 Fabrication Methods (3)
Prerequisite: EG-ME 202. Manufacturing processes. Metal joining processes. Casting, forging, powder metallurgy, machining and machining tools, finishing, coating, plating, nonmetallic materials inspection and gaging, tolerances.

472 Solar Energy and Engineering Applications (3)
Prerequisites: EG-ME 304 and 305. Solar collectors, space heating and cooling, power production and energy storage; review of basic economic principles; quantification of technical and economic performance of engineering solar systems; mathematical analysis of system performance.

473 Introduction to Nuclear Engineering (3)
Prerequisite: senior or graduate standing in engineering. A review of atomic physics and nuclear fission; elementary reactor theory and reactor design.

475 Acoustics and Noise Control (3)
Prerequisite: Physics 225C. Basic phenomena on the propagation, absorption and generation of acoustic waves, specification and measurement of noise, effects of noise on speech and behavior, legal aspects of industrial and building noise, principles and applications of noise control.

480 Human Factors Engineering (3)
Prerequisite: junior standing in engineering. Design of products and systems based on human engineering principles. Human capabilities and limitation of senses. Responses to sensory stimuli. Physiological, psychological and work factors are evaluated for design of equipment, work methods, environments and standards.

497 Senior Project (1–3)
Prerequisite: consent of adviser and instructor. Directed independent design project.

499 Independent Study (1–3)
Prerequisite: approval of study plan by adviser. Specialized topics in engineering selected in consultation with and completed under the supervision of the instructor. May be repeated for credit.

508 Advanced Inviscid Fluid Flow (3)
Prerequisites: Egr 205 and 308 and EG-ME 333. Study of two- and three-dimensional potential flow theory. Sources, sinks, vortices, rankine bodies, free jets, channel flow, air foils, etc. Complex potential and various transformation techniques are used.

511 Advanced Mechanical Vibrations (3)
Prerequisites: EG-ME 406 or equivalent. Vibrations in rotating and reciprocating machines; noise and vibration in fluid machinery; continuous systems; random vibrations; transient and nonlinear vibration, computer applications.

512 Advanced Mechanical Design (3)
Prerequisite: EG-ME 421. Advanced modern mechanisms. Analysis and synthesis of mechanisms. Computer aided design of mechanical, thermal and fluid systems. Optimization in design. Product producibility.

516 Advanced Radiation Heat Transfer (3)
Radiation heat transfer including the study of the geometric factor, black and real systems, and energy transfer in absorbing, scattering and emitting media, and radiation combined with other modes of energy transfer.

520 Advanced Viscous Fluid Flow (3)
Prerequisites: EG-ME 333 or equivalent. The fundamental equations of viscous fluid flow. Viscous drag estimation. Drag reduction methods.

526 Advanced Convective Heat Transfer (3)
Prerequisite: EG-ME 407. Convective heat transfer; heat transfer in external and internal flow fields for both laminar and turbulent fluid flow.

530 Advanced Strength of Materials (3)
Prerequisite: EG-ME 421 or consent of instructor. Energy methods. Castigliano's Therorem: curved beams, beams on elastic supports, thickwalled cylinders, shrink fits, localized stress, column instability, failure theories, three-dimensional Mohr's circle.

536 Advanced Conduction Heat Transfer (3)
Prerequisite: EG-ME 407. Conduction heat transfer; Bessel and Legendre functions, Fourier series solutions, heat sources and sinks, multidimensional problems, transient systems and numerical methods (finite difference and finite element methods).

540 Computer Applications in Engineering Design (3)
Prerequisite: Egr 403. Digital and analog computers in engineering design. Design methodology, model development, model use for parametric analysis, design optimization, performance prediction; use of existing generalized programs and simulation languages is emphasized.

597 Project (1–6)
Prerequisite: consent of adviser.

598 Thesis (1–6)
Prerequisite: consent of adviser.

599 Independent Graduate Research (1–3)
Prerequisite: classified graduate status. Open to graduate students only by consent of Mechanical Engineering Graduate Committee. May be repeated for credit only upon approval of this committee.

ENVIRONMENTAL STUDIES PROGRAM

FACULTY
Vincent Buck
Program Coordinator

ENVIRONMENTAL STUDIES COUNCIL
Aileen Baron (Anthropology), Fenton Calhoun (Communications), Jane Hall (Economics), Gary Hannes (Geography), Michael Mend (Sociology), Dindial Ramsamooj (Engineering), Prem Saint (Earth Science), Michael Steiner (American Studies), Barry Thomas (Science Education), William Van Willis (Chemistry), Joel Weintraub (Biological Science), James Woodward (History)

Environmental studies is an interdisciplinary program concerning our relationship with the natural and manmade surroundings.

The courses in environmental studies and cooperating departments attempt to integrate knowledge and research methods from several disciplines. The student will have the opportunity to take courses dealing with such concerns as pollution, alternative technologies, environmental health and hazards, ecological change, environmental economics, and environmental interpretation.

The program is intended to provide a wide diversity of students with an opportunity to become acquainted with and acquire a common vocabulary in this vital area.

A Master of Science in Environmental Studies is offered with an emphasis in environmental science, environmental policy and planning, or environmental education.

ENVIRONMENTAL SCIENCES

This area deals with the application of physical and biological science principles to environmental issues. Topical concerns include environmental ecology, water and air resources, environmental oceanography and geology. Students in this emphasis should have a strong background in biology, chemistry, earth science, engineering, geology or physics.

ENVIRONMENTAL POLICY AND PLANNING

This area deals with the concepts and methodologies of the social and behavioral sciences as applied to environmental policy and planning. Topical concerns include urban and regional planning, environmental aspects of administration, design, behavior, perception, law and economics. Students in this area may have backgrounds in the social or behavioral sciences and the humanities.

ENVIRONMENTAL EDUCATION

This emphasis approaches the study of the environment through such related disciplines as communication, biology, earth science and geography. Students require skills of observation, analysis and presentation appropriate for the classroom teacher, the outdoor naturalist or communication specialist. Students in this emphasis area should have a background in natural science, education or communications.

MASTER OF SCIENCE IN ENVIRONMENTAL STUDIES

See "Graduate Programs."

ENVIRONMENTAL STUDIES COURSES

440 Principles of Environmental Studies (3)

Prerequisite: graduate standing in environmental studies or consent of instructor. The principles and current problems of environment, research methodologies. Seminars, possible field trips and simulations.

510 Environmental Evaluation and Protection (3)

Prerequisites: Environmental Studies 440 and major in environmental studies or consent of instructor. Environmental parameters (water, air, solid wastes, noise, radiation, etc.). Techniques in monitoring and measurement; effect on human health; environmental quality standards and controls. Demonstrations and field trips.

520 Social Environmental Analysis (3)

Prerequisites: major in environmental studies program or consent of instructor. Concepts and methods used by social and behavioral scientists to analyze the built environment, and behavior within environment settings. Such topics as environmental perception, design-behavior research, social impacts, law, growth management, environmental health and research on hazards.

595 Seminar in Environmental Studies (3)

Prerequisite: classified status in environmental studies program or consent of instructor. Environmental impact assessment and other legal and institutional issues.

596 Internship in Environmental Studies (3)

Prerequisite: major in environmental studies program. Field experience with a governmental or private agency. Seminars and professional experience.

597 Project (3)

Prerequisite: major in environmental studies program and consent of instructor.

598 Thesis (3)

Prerequisites: classified status in environmental studies program and consent of instructor. Planning, preparation and completion of an acceptable, interdisciplinary thesis. Credit on submission of thesis.

GEOCHEMISTRY

(Offered by the Department of Chemistry and the Department of Earth Science as a Master of Arts in Chemistry, Geochemistry Emphasis.)

See "Graduate Programs" under Chemistry, and departmental course descriptions.

GEOLOGY

(See Department of Earth Science)

MARINE SCIENCES

(Offered by the Department of Biological Science and the Department of Earth Science)
See departmental course descriptions for the following courses:

Biological Science

319 Marine Biology (3)
319L Marine Biology Lab (1)
405 Biometry (4)
419 Marine Ecology (3)
419L Marine Ecology Lab (1)
421 Biology of Marine Nekton (4)
422 Intertidal Ecology (4)
446 Phycology (4)
461 Invertebrate Zoology (4)
475 Ichthyology (4)

518 Seminar in Marine Science (3)

Earth Science

333 Oceanography (3)

410 Special Topics in Earth Science—Marine Geology (2–3)

431 Physical Oceanography (3)

DEPARTMENT OF MATHEMATICS

FACULTY

James Friel
Department Chair

Russell Benson, Edwin Buchman, Joseph Bucuzzo, Gloria Castellanos, Michael Clapp,* Jacqueline Dana, Paul De Land, Russell Egbert, Gerald Gannon, Richard Gilbert, Darryl Katz, Vuryl Klassen, Vyron Klassen, William Leonard, Gerald Marley, John Mathews, Ronald Miller, David Pagni, John Pierce, Steven Roman, Rollin Sandberg, Ray Shiflett, Harris Shultz, Edsel Stiel, Lawrence Weill, Yun-Cheng Zee

BACHELOR OF ARTS IN MATHEMATICS

The Department of Mathematics offers a standard undergraduate major program in mathematics and options in applied mathematics, probability and statistics, and for prospective elementary or secondary teachers. Courses are provided to satisfy the needs of:

1. The student planning graduate study in mathematics;
2. The student planning to use mathematics in a career in business, industry or government;
3. The student planning to teach at the elementary or secondary level;
4. The student majoring in a discipline using mathematics as a descriptive or analytic tool.

The major program is designed to give sufficient breadth and depth in the study of mathematics to prepare students for subsequent graduate study in mathematics or related areas. The applied and the probability and statistics options provide the mathematics needed for certain careers in industry and government. For students interested in teaching in elementary or secondary schools, the teaching option may be combined with programs leading to a teaching credential to meet both university degree requirements and California credential laws.

In addition to the units in mathematics required in each program, all students seeking a B.A. in Mathematics must complete Engineering 205, Digital Computation, or Computer Science 112, Introduction to Computer Science. Each student is also required to select one of five cognates from the disciplines of computer science, economics, management science, philosophy or physics/engineering. Those students selecting the computer science cognate are required to take Computer Science 112. Each course required for the major, must be completed with a grade of C or better. Courses required for the major must be taken under grade option 1 and are not subject to challenge examinations.

Mathematics majors should take the lower-division mathematics courses (150A,B, 250A,B) during the first two years. Advanced calculus (350A) should be completed before the senior year.

Mathematics courses may be used to satisfy general education in the category of basic subjects.

Core Requirements:	*Units*
150A,B Analytic Geometry and Calculus	8
250A,B Intermediate Calculus	8
307 Applied Linear Algebra	3
335 Mathematical Probability	3
350A Advanced Calculus	3
370 Mathematical Model Building	3
	28

There are five upper-division courses beyond these requirements which may be taken in any one of four options, as follows:

Regular Program in Mathematics	*Units*
302 Modern Algebra	3
350B Advanced Calculus	3
412 Complex Analysis	3
407 Abstract Algebra *or*	
450 Real Analysis	3

* University administrative officer

414 Topology *or*
417 Foundation of Geometry *or*
425 Differential Geometry 3
15

Applied Option *Units*
306 Applied Analysis I 3
310 Ordinary Differential Equations 3
340 Numerical Analysis 3
One course each from two of the following groups 6
a. 406 Applied Analysis II
b. 435 Mathematical Statistics *or*
438 Stochastic Processes
c. 440 Numerical Solutions of Partial Differential Equations *or*
445 Advanced Numerical Analysis
d. 425 Differential Geometry *or*
470 Advanced Mathematical Model Building
15

Probability and Statistics Option *Units*
338 Statistics Applied to Natural Sciences 3
340 Numerical Analysis 3
371 Combinatorics 3
435 Mathematical Statistics 3
438 Stochastic Processes 3
15

Teacher Option *Units*
302 Modern Algebra 3
401 Algebra and Probability for the Secondary Teacher 3
402 Logic and Geometry for the Secondary Teacher 3
414 Topology *or*
417 Foundations of Geometry 3
435 Mathematical Statistics *or*
438 Stochastic Processes *or*
470 Advanced Mathematical Model Building 3
15

COGNATES:

Each student is required to select one of five cognates, as follows.
(The choice is dependent upon his or her chosen option.)

Computer Science: (Regular, Applied and Teacher Options) *Units*
Computer Sci 210 Introduction to Machine Language and Logic 3
Computer Sci 212 Computational Languages 3
Computer Sci 302 Information Structures 3
9

Economics: (Regular or Probability-Statistics Option) *Units*
Economics 301 Economic Principles 3
Economics 440 Econometrics 3
Economics 441 Mathematical Economics 3
9

Management Science: (Regular, Probability-Statistics or Teacher Options) *Units*
Management Science 475 Multivariate Analysis 3
Two courses from the following:
Management Science 465 Linear Programming
Management Science 467 Statistical Quality Control
Management Science 468 Design of Experiments

Management Science 469	Reliability Statistics	6
		9

Philosophy: (Regular Option only)		*Units*
*Math 368	Symbolic Logic, 1st course	3
*Math 369	Symbolic Logic, 2nd course	3
Philosophy 380	Analytic Philosophy *or*	
	Philosophy 384 Philosophy of the Physical Sciences *or*	
	Philosophy 435 Philosophy of Science *or*	
	Philosophy 468 Seminar in Advanced Symbolic Logic	3
		9

Physics/Engineering: (Regular, Applied and Teacher Options)		*Units*
Physics 225A	Mechanics	3
Physics 226A	Mechanics Lab	1
Physics 225B	Electricity and Magnetism	3
Physics 226B	Electricity and Magnetism Lab	1
Physics 225C	Modern Physics *or*	
Engineering 201	Mechanics	3
		11

Internships in Mathematics

Internships in applied mathematics provide work experience in advanced mathematics through positions in business, industry or government.

Writing Requirement

Math 380 will satisfy the university's upper-division writing requirement for mathematics majors.

Minor Program in Mathematics

A mathematics minor shall consist of 25 units of course work which shall include Math 150A,B, 250A,B and at least nine units of upper division mathematics, exclusive of Math 303A,B, 380, 401, 402, 495, 496 and 499. All courses must be completed with a grade of C or better.

Minor Program in Mathematics for Teacher Education

A. For elementary education the minor consists of 20 units of course work selected from the courses offered by the Department of Mathematics. The courses must include Mathematics 150B or 338, and Mathematics 303A,B.

B. For secondary education the minor consists of 20 units of course work selected from the courses offered by the Department of Mathematics. The courses must include Mathematics 250B and six units of upper-division courses in mathematics.

REQUIRED COURSE WORK FOR TEACHING CREDENTIALS

Candidates for secondary school credentials must complete the following courses: Math 401 and 402 and Math Ed 442 and 449A,B.

MASTER OF ARTS IN MATHEMATICS

See "Graduate Programs."

MATHEMATICS COURSES **

100 Precalculus Mathematics (4)

Prerequisite: the equivalent of three years of high school mathematics. For students who plan on taking calculus but who lack the necessary preparation. Polynomial, rational, exponential, logarithmic and trigonometric functions.

110 Mathematics for Liberal Arts Students (3)

Prerequisites: two years of high school mathematics, including one year of algebra and one year of geometry. Algebra, number theory, geometry, set theory, probability and analysis and the ideas and methods involved. For non-science majors.

---

* Same as Philosophy 368/369.

** Prerequisites may be waived in any mathematics course by consent of instructor.

120 Introduction to Probability and Statistics (3)
Prerequisites: the equivalent of three years of high school mathematics, including a second course in algebra. Set algebra, finite probability models, sampling, binomial trials, conditional probability and expectation. Recommended for students of economics, business, the biological, earth and social sciences.

130 A Short Course in Calculus (4)
Prerequisites: the equivalent of three years of high school mathematics, including a second course in algebra, and a passing score on the mathematics qualifying examination.† Differential and integral calculus. For students of business, economics, the biological, earth and social sciences. Students may not receive credit for both Math 130 and 135.

135 Business Calculus (3)
Prerequisites: three years of high school mathematics, including two years of algebra and a passing score on the mathematics qualifying examination.† Elements of differential and integral calculus and their applications; including derivatives, integrals and max-min problems. Designed for students of business. Students may not receive credit for both Math 130 and 135.

150A,B Analytic Geometry and Calculus (4,4)
Prerequisites: the equivalent of four years of high school mathematics including trigonometry, and a passing score on the mathematics qualifying examination. †150A is the only prerequisite for 150B. Analytic geometry, functions, limits, differentiation, the definite integral, techniques of integration, applications, infinite series, Taylor's theorem.

196 Student-to-Student Tutorials (1–3)
Consult "student-to-student tutorials" in this catalog for more complete course description. May be taken CR/NC only.

250A Intermediate Calculus (4)
Prerequisites: Math 150A,B or equivalent. A continuation of Math 150. Functions of several variables, partial differentiation, multiple integration, linear differential equations.

250B Intermediate Calculus (4)
Prerequisites: Math 250A. An introduction to the solutions of ordinary differential equations and their relationship to linear algebra. Topics include matrix algebra, systems of linear equations, vector spaces, linear independence, linear transformations and eigenvalues.

302 Modern Algebra (3)
Prerequisite: Math 250B. The integers, rational numbers, real and complex numbers, polynomial domains, introduction to groups, rings, integral domains and fields.

303A,B Fundamental Concepts of Elementary Mathematics (3,3)
Prerequisites: at least one prior course in each of the fields of algebra and geometry; three years of high school mathematics recommended. The structure and form of the mathematics that constitutes the core of the K–8 mathematics curriculum, including the real number system, number theory and equations.

306 Applied Analysis I (3)
Prerequisite: Math 250B. Vector analysis, including Green's, Gauss' and Stokes' theorems. Introduction to complex analysis. Laplace transform methods. Applications.

307 Applied Linear Algebra (3)
Prerequisite: Math 250B. An Introduction to the theory of matrices and linear transformations with a major emphasis on applications. Topics include similarity transformations, bilinear and quadratic forms, orthogonal and unitary transformations.

310 Ordinary Differential Equations (3)
Prerequisite: Math 250A. Theory and methods of solutions for ordinary differential equations.

330 Number Theory (3)
Prerequisite: Math 250B. Divisibility, congruences, prime number theory, Diophantine problems.

335 Mathematical Probability (3)
Prerequisite: Math 250A. Probability theory and its applications, based on use of the calculus.

338 Statistics Applied to Natural Sciences. (3)
Prerequisite: Math 130 or 150B or consent of Instructor. An introduction to the theory of statistics and statistical applications with an emphasis on data analysis techniques. Topics include elementary probability theory, estimation, hypothesis testing, correlation and regression, analysis of variance, and non-parametric tests.

---

† Examination must be taken immediately prior to the semester of class enrollment.

340 Numerical Analysis (3)
Prerequisites: Math 250B and a knowledge of computer coding. Approximate numerical solutions of systems of linear and nonlinear equations, interpolation theory, numerical differentiation and integration, numerical solution of ordinary differential equations. Computer coding of numerical methods.

350A,B Advanced Calculus (3,3)
Prerequisite: Math 250B. 350A is a prerequisite for 350B. Proofs in analysis. Continuity, differentiation and integration of functions of several variables, improper integrals, sequences and infinite series.

368 First Course in Symbolic Logic (3)
(Same as Philosophy 368)

369 Second Course in Symbolic Logic (3)
(Same as Philosophy 369)

370 Mathematical Model Building (3)
Prerequisite: Math 250B, or consent of instructor. The theory of mathematical models and their applications in the biological, physical and social sciences. Discrete and continuous models.

371 Introduction to Combinatorics (3)
Prerequisite: Math 250A. Working ability in FORTRAN or BASIC. Combinatorial techniques for studying discrete configurations are surveyed. Some emphais is placed on developing efficient algorithmic solutions. Methods of enumeration. Proofs of existence, constructive techniques and applications are explored. (Same as Computer Sci 371)

380 History of Mathematics (3)
Prerequisite: Math 250B. The history of mathematics through its methods and concepts. Designed to help the student become proficient in writing and reading mathematical literature. Satisfies the upper-division writing requirement for mathematics majors.

401 Algebra and Probability for the Secondary Teacher (3)
Prerequisite: 12 units of upper-division mathematics. An overview of mathematical topics relevant to the teacher of secondary mathematics. A problem-solving approach to areas including algebra, number theory, combinatorics and probability will be employed while maintaining an historical perspective.

402 Logic and Geometry for the Secondary Teacher (3)
Prerequisite: 12 units of upper-division mathematics. A course parallel to Math 401 but with emphasis on geometry, trigonometry and the theory of equations.

406 Applied Analysis II (3)
Prerequisite: Math 306. Partial differential equations. Fourier analysis and integral transforms. Boundary-value problems for the potential, wave and diffusion equations. Sturm-Liouville theory. Applications.

407 Abstract Algebra (3)
Prerequisite: Math 302. Sets, mappings, groups, rings, modules, fields, homomorphisms, advanced topics in vector spaces and theory of linear transformations, matrices, algebras, ideals, field theory, Galois theory.

412 Complex Analysis (3)
Prerequisite: Math 350A. Complex differentiation and integration, Cauchy's theorem and integral formulas, maximum modulus theorem, harmonic functions, Laurent series, analytic continuation, entire and meromorphic functions, conformal transformations and special functions.

414 Topology (3)
Prerequisite: Math 350A. Topological spaces and continuous functions, connectedness and compactness, metric spaces and function spaces.

417 Foundations of Geometry (3)
Prerequisite: Math 307. A study of the foundations of geometry through transformation and formal axiomatics. Isometrics, continuous projective and affine transformations. Convexity and metric spaces.

425 Differential Geometry (3)
Prerequisite: Math 307. The differential geometry of curves and surfaces. Frenet-Seret formulas, the Gauss-Weingarten equations, the Gauss-Bonnet theorem.

435 Mathematical Statistics (3)
Prerequisite: Math 335 or equivalent. Statistical theory and its applications, based on the use of calculus.

438 Introduction to Stochastic Processes (3)
Prerequisite: Math 335. Stochastic processes including Markov chains, the Poisson Process, the Wiener Process. Applications to birth and death processes and queuing theory.

440 Numerical Solutions of Partial Differential Equations (3)
Prerequisite: Math 340. Approximate numerical solutions of partial differential equations and boundary value problems in which they are involved, using finite difference methods. Numerical computation of eigenvectors. Error analysis. Computer coding of numerical methods.

445 Advanced Numerical Analysis (3)
Prerequisite: Math 340. Numerical solutions of ordinary, and systems of ordinary differential equations; solutions of polynomial equations; the eigenvalue problem for matrices; spline, relaxation and optimization methods.

470 Advanced Mathematical Model Building (3)
Prerequisite: Math 370. A continuation of Math 370. Discrete, continuous and stochastic models utilizing methods from applied mathematics. A project suitable to the student's background and interest may be required.

489A Applicable Linear Algebra (3)
Prerequisites: undergraduate calculus, linear algebra, advanced calculus and consent of instructor. Topics from linear algebra useful in graduate studies in mathematics, including finite and infinite dimensional vector spaces, linear transformations and matrices. Must be taken concurrently with Math 489B.

489B Applicable Analysis (3)
Prerequisites: undergraduate calculus, linear algebra, advanced calculus and consent of instructor. Topics from analysis useful in graduate studies in mathematics, including metric spaces, normed and inner product spaces and linear operators.

495 Internship in Applied Mathematics (1–3)
Prerequisites: 15 units of upper-division mathematics and consent of instructor. Work experience in advanced mathematics through positions in business, industry or government.

496 Student-to-Student Tutorials (1–3)
See index. CR/NC only.

499 Independent Study (1)
Prerequisite: consent of instructor. Special topic in mathematics, selected in consultation with and completed under supervision of instructor.

501A Numerical Analysis and Computation I (3)
Prerequisites: Math 489A,B or consent of instructor. Numerical methods for linear and nonlinear systems of equations, eigenvalue problems. Interpolation and approximation, numerical differentiation, integration and function evaluation. Error analysis, comparison, limitations of algorithms. Must be taken concurrently with Math 501B.

501B Numerical Analysis and Computation II (3)
Prerequisites: Math 489A,B or consent of instructor. Numerical methods for initial and boundary-value problems for ordinary and partial differential equations. The finite element method. Error analysis, comparison, limitations of algorithms. Must be taken concurrently with Math 501A.

502A Probability and Statistics I (3)
Prerequisites: Math 489A,B. The theory and applications of conditioning and random processes, with emphasis on modeling special discrete and continuous time processes. Must be taken concurrently with Math 502B.

502B Probability and Statistics II (3)
Prerequisite: Math 489A,B and 502A. The mathematical theory and applications of renewal, queueing and reliability with advanced theoretical concepts in statistical estimation and topics from time series analysis. Must be taken concurrently with Math 502A.

512 Complex Analysis (3)
Prerequisites: Math 412 and 350B. Analytic functions of several variables, special functions, conformal mapping and Riemann surfaces.

514 Topology (3)
Prerequisite: Math 414. Advanced point set and algebraic topology.

531 Seminar in Applied Mathematics (3)
Prerequisite: consent of instructor. Advanced topics. May be repeated for credit.

535 Applied Probability and Statistics (3)
Prerequisites: Math 335; or Engineering 423; Math 350A or the equivalent and experience in computer programming. Monte Carlo methods and stochastic processes. Applications. Computer software design.

540 Topics in Numerical Analysis (3)
Prerequisites: Math 340 and Math 350A. Advanced topics: minimization of effect of computer roundoff error. Applications in differential equations, systems of algebraic equations, optimization, integration, and computer software design.

545 Approximation Theory (3)
Prerequisites: Math 340, 350A, or the equivalent and experience in computer programming. Methods of approximating functions and their analysis. Particular estimators and classes of them. Applications. Computer software design.

580 Junior High School Mathematics from an Advanced Standpoint (3)
Prerequisites: Math 302, graduate standing, plus one year of full-time teaching in junior or senior high school mathematics. The content of the mathematics in the junior high school mathematics curriculum.

581 High School Geometry from an Advanced Standpoint (3)
Prerequisites: Math 250B or consent of instructor, graduate standing, plus one year of full-time teaching in junior or senior high school mathematics. The content of the mathematics in the high school geometry curriculum.

582 High School Algebra from an Advanced Standpoint (3)
Prerequisites: Math 250B, 302, or consent of instructor, graduate standing, plus one year of full-time teaching in junior or senior high school mathematics. The content of the mathematics in the high school algebra curriculum.

583 Precalculus High School Mathematics from an Advanced Standpoint (3)
Prerequisites: Math 350A, or consent of instructor, graduate standing, plus one year of full-time teaching in junior or senior high school mathematics. The content of the mathematics in the high school precalculus curriculum (primarily trigonometry and analytic geometry).

584 Elementary Analysis from an Advanced Standpoint (3)
Prerequisites: Math 350A, or consent of instructor, graduate standing, plus one year of full-time teaching in high school mathematics. The content of the mathematics in the high school analysis curriculum.

597 Project (3, 6)
Prerequisite: consent of instructor.

599 Independent Graduate Research (1–3)
Prerequisite: graduate standing. One unit required for each regular graduate course. Also offered without being attached to any course. May be repeated for credit.

MATHEMATICS EDUCATION COURSES

442 Teaching Mathematics in Secondary School (3)
Prerequisite: appropriate education and mathematics course work for credential. Objectives, methods, and materials including audiovisual instruction for teaching mathematics. Required, before student teaching, of mathematics majors for the general secondary credential. (Offered fall semester only) (2 hours lecture, 2 hours activity)

449A Student Teaching in Mathematics in the Secondary School (10)
See description under Division of Teacher Education. (Offered spring semester only)

449B Student Teaching Seminar (2)
See description under Division of Teacher Education.

499 Independent Study (1–3)
Prerequisite: consent of instructor. Special topic in mathematics education, selected in consultation with and completed under supervision of the instructor. May be repeated for credit.

MEDICAL BIOLOGY

(Offered by the Department of Biological Science and the Department of Chemistry)
See departmental course descriptions for the following courses:

Biological Science

323 Biology of Sexually Transmitted Diseases (STD) (1)
361 Human Anatomy (4)
362 Human Physiology (4)
406 Biometry (4)
423 Pathogenic Bacteriology (4)
424 Immunology (4)
425 Pathobiology (4)
426 General Virology (3)
427 Medical Mycology (4)
428 Biology of Cancer (3)
445 Mycology (4)
462 Biomedical Parasitology (4)
468 Comparative Animal Physiology (4)
469 Hematology (4)

Chemistry

312 Survey of Analytical Chemistry (4)
430 Clinical Chemistry (4)
421A,B Biological Chemistry (3,3)
422A,B General Biochemistry Laboratory (2,2)

METEOROLOGY

(Offered by the Department of Earth Science and the Department of Geography)
See departmental descriptions for the following courses:

Earth Science

140 Earth's Atmosphere (3)
340 General Meteorology (3)
410 Special Topics in Earth Science—Dynamic and Physical Meteorology (2–3)

Geography

280g Analysis of Weather Maps (1)
323 Weather and Climate (3)
422 Regional Climatology (3)

OCEANOGRAPHY

(Offered by the Department of Biological Science, the Department of Earth Science and the Department of Geography)
See department descriptions for the following courses:

Biological Science

319 Marine Biology (3)
319L Marine Biology Laboratory (1)
406 Biometry (4)
419 Marine Ecology (3)
419L Marine Ecology Lab (1)
421 Biology of Marine Nekton (4)
422 Intertidal Ecology (4)
446 Phycology (4)
461 Invertebrate Zoology (4)
475 Ichthyology (4)
518 Seminar in Marine Science (3)

Earth Science

333 Oceanography (3)
410 Special Topics in Earth Science—Marine Geology (2–3)
431 Physical Oceanography (3)

Geography
349C The Oceans (1)
349D The Ocean Floors (1)
426 Man and the Coastal Environment (3)

PHYSICAL SCIENCE

(Offered by the Department of Chemistry and the Department of Physics)

100 Man and His Physical Environment (4)
Designed for non-science majors. Scientific activities which have resulted in major modification of the environment. Predicting trends and suggesting alternatives. Transportation; energy conversion; food production; population; waste disposal; and chemical warfare. Threats to survival. (Same as Physics 100)

104 Science and Public Policy (1)
The mission of science. Cultural vs. practical science. Comparative and ideal studies of science management. Technological compulsion, injection of expertise, demystification, representation of the public interest, overquantification, reliability of expertise. International science. Nuclear energy, power, military uses, priorities, consumerism.

DEPARTMENT OF PHYSICS

FACULTY
Louis Shen
Department Chair
Raymond Adams, Joseph Becker, Harvey Blend, Charles Carter, Edward Cooperman, Ronald Crowley, Roger Dittmann-Djakovic, Fred Johnson, Roger Nanes, Mark Shapiro, Dorothy Woolum

The Physics Department has two tracks. One track is industrial physics designed for students intending to pursue a career in industry in a wide variety of capacities. The other track is theoretical physics designed for students intending to pursue graduate studies in physics or related fields. Within either track, the student can further develop his/her individual study plan with the aid of faculty advisement. Informal faculty/student relationship is encouraged to afford students maximum learning opportunities in non-classroom situations. A 9 a.m. to 4 p.m. daily tutorial session manned by faculty is in operation, allowing access to all faculty for aid in course material and problem solving, as well as advising. Active participation of students in faculty research is encouraged, affording them unique opportunities to have "hands-on" experience in research in the frontiers of physics. Students also have direct input in course offerings.

Internships: Physics 495, Internship in Physics, provides practical work experience which integrates with classroom studies.

BACHELOR OF ARTS IN PHYSICS

To qualify for the Bachelor of Arts in Physics, students must have a C average or better in all courses required for the major, including those in mathematics and related sciences. No credit toward the major will be allowed for major courses in which a grade of D is received.

COURSE REQUIREMENTS

Lower division	*Units*
General chemistry (Chem 120A,B)	10
Mathematics (Math 150A,B and 250A)	12
Fundamental Physics (Physics 225A,B,C and 226A,B,C)	12
Total	34
Upper division	
Physics 325 Classical Thermodynamics	3
Physics 431A Electricity and Magnetism	3
Physics 441 Analytical Mechanics	3
Physics 451A Modern Physics	3
Physics 480 Methods of Experimental Physics	3
At least 12 additional upper division units in physics, selected in consultation with student's academic adviser with approval by both adviser and department chair	12
Total	27

Other requirements

The physics major is encouraged to select a minimum of 13 additional upper-division units from this or other departments within the School of Mathematics, Science and Engineering.

Each physics major must file a plan of study with the Physics Department as early as possible but no later than the first semester of the junior year. This plan reflecting the student's needs will be worked out with and must be approved by the faculty adviser and the department chair.

MINOR IN PHYSICS

A minimum of 21 units of physics are required for a minor. These shall include 12 units of lower division physics (or equivalent as determined by the Department of Physics), and a minimum of nine units of upper division physics, including a minimum of three units of experimental physics.

SUGGESTED EIGHT SEMESTER PROGRAM LEADING TO A B.A. IN PHYSICS

	Units
Semester 1. Freshman	
Physics 225A,226A Fundamental Physics	4
Math 150A Analytic Geometry and Calculus	4
Semester 2. Freshman	
Physics 225B, 226B Fundamental Physics	4
Math 150B Analytic Geometry and Calculus	4
Semester 3. Sophomore	
Physics 225C, 226C Fundamental Physics	4
Math 250A Intermediate Calculus	4
Chem 120A General Chemistry	5
Semester 4. Sophomore	
Physics 325 Classical Thermodynamics	3
Math 250B Intermediate Calculus (recommended but not required)	3
Chem 120B General Chemistry	5
Semester 5. Junior	
Physics 441 Analytical Mechanics	3
Physics 480 Methods of Experimental Physics	3
Physics 410 Math Physics (recommended but not required)	3
Semester 6. Junior	
Physics 451A Modern Physics	3
Physics 431A Electromagnetic Theory	3
Physics plan of study elective	3
Semester 7. Senior	
Physics plan of study elective	3–9
Semester 8. Senior	
Physics plan of study elective	3–9

GRADUATE WORK IN PHYSICS

The department has a cooperative arrangement with California State University, Long Beach. Students may take up to 18 units of credit at Cal State Fullerton and the remainder of the 30-unit requirement at Cal State Long Beach, for a master's degree in physics, offered by Cal State Long Beach.

PHYSICS COURSES *

100 Man and His Physical Environment (4)

(Same as Physical Science 100)

105 Fads and Fallacies in the Name of Science (1)

Pseudoscientific theories and practices: astrology, UFO's, the practice of cryonics, food fads, etc. The fundamental differences between science and pseudoscience.

107 Nuclear Energy and Its Impact on Society (1)

Prerequisite: high school algebra. The physics of nuclear fission and the societal impact of a nuclear power economy.

---

* For all courses, prerequisites may be waived by the instructor of the course if the instructor is satisfied that the student is qualified to undertake the course. A grade of C or better is required for all prerequisite courses.

108 Adventures in Exploring the Universe (1)
Armchair travels through the solar system, to the planets, comets, moons of Jupiter, the interior of stars and trips to other galaxies and exotic places like quasars, pulsars and cepheid variables.

109 Evolution of the Universe (1)
The origin of the solar system. The origin of life on planet earth. The evolutionary aspects and conditions leading to life in the universe.

112
(See Science 112, The Physical Earth)

112L
(See Science 112L, The Physical Earth Laboratory)

123 Perspectives of Man's Physical Universe (3)
Fundamental laws of nature. Topics of current interest such as lasers, space exploration, and energy for non-science majors.

123L Perspectives of Man's Physical Universe Laboratory (1)
Concurrent enrollment in Physics 123 required. Experimental exhibits and quantitative experiments. Heat and temperature, electricity and magnetism, light and optics, sound, vision, perception and waves.

175 Applied Physics I (1)
How to use mathematics in solving physics problems; review of geometry, algebra, trigonometry commonly used in the beginning physics courses, Physics 225A and 211A, introduction to use of calculus. To be taken concurrently with Physics 211A or 225A.

200 Introduction to Astronomy (4)
High school algebra recommended. Celestial motion, the solar system, galactic structure, theories of the origin of the universe and the solar system, and evolution, leading to precursors of life-forming molecules. (3 hours lecture, 1 hours of activity, field trips to planetariums and/or observatories and observing sessions)

211A,B Elementary Physics (3,3)
Corequisite: Math 130 or 150A or equivalent. Must take math placement examination. Concurrent enrollment in corresponding 212A,B required. Mechanics and thermodynamics in the first semester, and electricity and magnetism, wave motion and optics in the second semester. Illustrative material from biology and medicine. (3 hours lecture)

212A,B Elementary Physics (1,1)
Laboratory for 211A,B. Concurrent enrollment in the corresponding 211A,B lecture required. (3 hours laboratory)

225A Fundamental Physics: Mechanics (3)
Corequisite: Math 150A. Must take math placement examination. Concurrent enrollment in 226A required. Classical physics, including Newtonian mechanics, linear and circular motion, energy, momentum, systems of particles, and rigid body motion. (3 hours lecture)

225B Fundamental Physics: Electricity and Magnetism (3)
Prerequisite: Physics 225A or equivalent; concurrent enrollment in Physics 226B required. Corequisite: Math 150B. Electrostatics, electric potential, Poisson's and Laplace's equations, capacitance, dielectrics and boundary value problems, electrical circuits, resistance, emf, magnetism and magnetic materials, and introduction to Maxwell's equations.

225C Fundamental Physics: Modern Physics (3)
Prerequisite: Physics 225B or equivalent. Concurrent enrollment in Physics 226C laboratory required. Geometrical and physical optics, wave phenomena; quantum physics, including the photoelectric effect, line spectra and the Bohr atom; the wave nature of matter, Schroedinger's equation and solutions; the Uncertainty Principle, special theory of relativity.

226A,B,C Fundamental Physics: Laboratory (1,1,1)
Laboratory for Physics 225A,B,C. Concurrent enrollment in the corresponding 225A,B,C lecture required (3 hours laboratory)

325 Fundamental Physics: Classical Thermodynamics (3)
Prerequisite: Physics 225C or equivalent. Temperature, work, internal energy, heat, reversibility, and entropy; the laws of thermodynamics; physical, chemical and engineering applications.

350 General Astronomy (4)
Prerequisites: Math 150A and Physics 225A; 225C recommended. Origin and evolution of universe and solar system. Galactic structure; stellar evolution and types; our Sun as a star; nucleosynthesis; planetary relation to universe; and astronomical measurement techniques. (3 hours lecture, 3 hours laboratory).

384 Philosophy of the Physical Sciences (3)
(Same as Philosophy 384)

405 Acoustics (4)
Prerequisite: upper-division standing. For non-science majors. Fundamentals of sound and its measurement, music auditorium design, physiology of the ear, sound synthesizers and analyzers. (3 hours lecture, 3 hours laboratory)

410 Introduction to Mathemetical Physics (3)
Prerequisite: Physics 225C and Math 250A. The ordinary and partial differential equations of physics. Vector calculus, linear algebra, calculus of variations, Fourier series and integral transforms. Problems in physics.

411 Modern Optics (3)
Prerequisites: Physics 225 sequence, Math 250A. Wave propagation, introduction to the calculus of variations, Fourier optics, introduction to spatial filtering and image enhancement, lasers.

412 Introduction to Molecular Biophysics (3)
Prerequisites: Biol 101, Math 150A,B or consent of instructor, and Physics 211A,B. The properties of biological systems from a molecular viewpoint. Determination of macromolecular size and shape and the relation of such information to the function of biological systems.

414 Physics of the Solar System (3)
Prerequisites: Math 250A, and Physics 225A,B,C; Physics 325 recommended. Solar system physics, including physical principles underlying current experiments in planetary science and space physics. Solar physics; planetary dynamics; experimental probes of planetary surfaces, interiors and atmospheres; physical constraints on theories of the solar system origin.

416 Thermal and Statistical Physics (3)
Prerequisites: Physics 225 sequence and Math 250A. The disciplines of thermodynamics, statistical mechanics and kinetic theory (and their applications); their unifying microscopic foundation.

431A,B Electromagnetic Theory (3,3)
Prerequisites: Physics 225 sequence, Math 250A. Vector analysis, electrostatics, dielectrics, special relativity, magnetostatics, magnetic materials and their properties, Maxwell's equations and their application to plane-wave problems (free space, wave guides, dielectric boundaries), dipole and quadrupole radiation.

441 Analytical Mechanics (3)
Prerequisites: Physics 225 sequence and Math 250A. Newtonian mechanics applied to the statistics and dynamics of particles and rigid bodies. Lagrangian and Hamiltonian equations.

451A Modern Physics (3)
Prerequisites: Physics 225 sequence and Math 250A. The principal modern physical theories and their experimental foundations. Basic relativity theory, atomic theory of matter and quantum mechanics.

453 Nuclear Physics (3)
Prerequisite: Physics 451A. Properties of nuclei, radioactivity, elementary particles, nuclear reactions. Theories of nuclear structure and nuclear processes.

454 Introduction to the Solid State of Matter (3)
Prerequisite: Physics 451A, differential equations. The physical properties of matter in the solid state, as explained by atomic theory. Crystal structure, thermal, electric and magnetic properties of metals, semiconductors, band theory and solid state devices.

455 Introduction to Quantum Physics (3)
Prerequisite: Physics 441, differential equations. The concepts and theory of quantum physics. Early quantum theories, the Schroedinger equation, eigen-value equations, operators, commutation properties, applications to simple quantum systems, angular momentum.

465 Gravitation (3)
Prerequisites: Physics 225 sequence, Vector analysis and simple partial-differential equations. Applications of modern differential geometry to Einstein's geometric framework for physics: stars, cosmology, Schwartzchild geometry, gravitational collapse, gravitational waves and investigations of the experimental tests of alternative theories of gravity.

471 Electronic Circuit Theory (3)
Prerequisites: Physics 225 series sequence, Math 250A. Operating characteristics of transistors and

semiconductor diodes. Linear circuit theory for alternating currents and for transient currents. Switching and pulse circuits. Digital electronics.

476 Atomic Structure (3)

Prerequisite: Physics 455. Theory of atomic structure, interaction of radiation with matter and perturbation theory. Angular momentum and coupling schemes.

480 Methods of Experimental Physics (3)

Prerequisite: Physics 225B. The experimental techniques of laboratory physics: the interpretation and analysis of data, experiment planning, calibration of equipment. Experiments from the field of electronics, optics, vacuum technology, nuclear physics and atomic physics.

481 Experimental Physics (2)

Prerequisites: Physics 225 A,B,C; Physics 480 recommended. Experiments in electrical measurements and electronics: electronic devices and circuits. (6 hours laboratory)

482 Experimental Physics (2)

Prerequisites: Physics 225C and 480. Laboratory experiments in optics, including: spatial filtering, image enhancement, atomic spectroscopy, interferometry, holography, and photographic techniques. (6 hours laboratory)

490 Senior Seminar (1–3)

Prerequisite: consent of instructor. Recent developments in physics not ordinarily covered in organized courses. May be repeated for credit. Open to upper division and graduate students in physics and related areas.

495 Internship (1)

Prerequisites: upper division standing in physics and consent of the chair. Professional physics work in industry or government, to provide an in-depth experience. Written report is required. May be repeated once for credit.

496 Student-to-Student Tutorials (1–3)

Prerequisite: Upper-division standing and consent of chair. Students learn through teaching, increase mastery of subject matters, develop awareness of teaching problems and competence in teaching techniques. Consult "Student-to-Student Tutorials" in this catalog for more complete course description.

499 Independent Study (1–3)

Prerequisite: approval of study plan by department chair and instructor. Topic in physics, selected in consultation with and completed under the supervision of the instructor. May be repeated for credit to a maximum of six units.

598 Thesis (1–6)

Planning, preparation and completion of an acceptable thesis in partial fulfillment of the requirements for the master's degree. Credit to be obtained only upon formal submission of thesis.

599 Independent Graduate Research (1–3)

Prerequisite: written approval of study plan by department committee and by instructor. Open only to graduate students and only with consent of a faculty member. May be repeated for credit.

SCIENCE

(Offered by the Department of Biological Science, Chemistry, Earth Science and Physics and the Program of Science Education)

112 Our Physical Earth (4)

Introduction to physical principles as applied to earth science. Principles of gravitation, states of matter, energy, light, electricity and magnetism explain isostasy and plate tectonics, rocks and minerals, earthquakes and volcanoes, and earth's interior. (3 hours lecture, 1 hour discussion)

112L Our Physical Earth Laboratory (1)

Corequisite: Science 112. Investigation of selected principles of earth science and physics. (3 hours lab, 1 field trip)

113 The Chemical Basis of Life: The Interface of Biology and Chemistry (4)

An integrated examination of the chemical principles involved in the processes of living organisms with an emphasis on structural and functional relationships. Topics to include properties of atoms and molecules, cell structure and function, biochemical genetics, evolution and ecosystems.

113L The Chemical Basis of Life: The Interface of Biology and Chemistry Laboratory (1)

Corequisite: Science 113. An introduction to chemical and biological laboratory principles.

126 Development of Reasoning in Science (DORIS) (3)
A course utilizing topics from mathematics and science to develop and reinforce fundamental reasoning skills. Appropriate concepts form the basis for teaching specific models of reasoning central to mathematics and science generally.

SCIENCE EDUCATION PROGRAM

FACULTY
Gaylen Carlson
Program Coordinator
Francis Collea, H. Eric Streitberger, Barry Thomas, G. Cleve Turner

The Program of Science Education offers two programs in the general science area: environmental education and science education. Degrees and curricular offerings in each area are described below.

PROGRAM IN ENVIRONMENTAL EDUCATION

In recognition of the need for education in nature interpretation and conservation the Science Education Program is developing coursework in these disciplines. Much of the course work for these areas will take place at the nearby Tucker Wildlife Sanctuary. This sanctuary has been designated as a center for research and nature interpretation. In addition to research and course work, the sanctuary will provide a continuing public service to the community through its daily programs in nature interpretation. This service is provided by resident professor-naturalists and student-naturalists in training at the facility. School groups as well as adults are invited to attend the regularly scheduled programs. The following course numbers are Environmental Courses: 190, 454, 479A,B, 525.

MASTER OF SCIENCE IN ENVIRONMENTAL STUDIES—ENVIRONMENTAL EDUCATION EMPHASIS

MASTER OF ARTS IN TEACHING/SCIENCE

See "Graduate Programs."

PROGRAMS IN SCIENCE EDUCATION

The Science Education Program prepares students to teach science at the elementary and secondary levels, provides guidance for experienced teachers in the study and use of educational practices developed for the teaching of sciences and helps teachers develop original ideas in their areas of specialization.

The offerings of this program include basic professional training courses required for teacher certification, advanced course work in science education, and certain academic content offerings designed especially for teacher preparation.

REQUIRED COURSE WORK FOR TEACHING CREDENTIALS

The following courses offered by the Science Education Program are required of candidates for teaching credentials in science.

SINGLE SUBJECT CREDENTIAL CANDIDATES-LIFE SCIENCES AND PHYSICAL SCIENCES

Sci Ed 312 Processes of Science (4)
Sci Ed 442 Teaching Science in the Secondary School (3)
Sci Ed 449A Student Teaching in Science in the Secondary School (10)
Sci Ed 449B Student Teaching Seminar (2)

COURSES APPROVED FOR THE CHILD DEVELOPMENT WAIVER PROGRAM

Selections from the following courses may be used to meet degree requirements for the Child Development major. Sci Ed 310, in particular, applies to Category E, Alternative 2 of the waiver.

Sci Ed 310 Elementary Experimental Science
Sci Ed 434 Elementary Science—New Curricula
Sci Ed 453 Life Science Concepts

COURSES APPROVED FOR THE LIBERAL STUDIES CREDENTIAL WAIVER PROGRAM AND OTHER MAJORS

Selections from the following courses may be used to meet degree requirements for the liberal studies major.

Sci Ed 310 Elementary Experimental Science (3)
Sci Ed 453 Life Science Concepts (3)

SCIENCE EDUCATION COURSES

190 Wildlife of the Santa Ana Mountains (1)
The distribution and protective features of native wildlife in the Santa Ana Mountains. Three evening lectures and one weekend field trip during six weeks. Camping gear necessary.

310 Elementary Experimental Science (3)
Prerequisite: completion of general education natural science requirements or consent of instructor. For prospective elementary school teachers. Observing, classifying, recognizing space-time relations, measuring, inferring, formulating hypotheses, controlling variables and interpreting data. (2 hours lecture, 2 hours activity)

312 Processes of Science (4)
Prerequisites: 15 units of science coursework including biological and physical sciences. Methodologies, logical procedures and explanatory systems that characterize the various natural sciences. The role of the science educator. (2 hours lecture, 4 hours activity)

434 Elementary School Science—New Curricula (3)
Prerequisite: Sci Ed 310 or equivalent or consent of instructor. The content, philosophy and techniques of the new curricula for elementary science courses. (2 hours lecture, 2 hours activity)

442 Teaching Science in the Secondary School (3)
Prerequisite: appropriate education and science education course work for credential. Objectives, methods, and materials including audiovisual instruction for teaching science. Required before student teaching for candidates for the single subject teaching credential in either the life sciences or the physical sciences. (2 hours lecture, 2 hours activity)

449A Student Teaching in Science in the Secondary School (10)
See description under Division of Teacher Education.

449B Student Teaching Seminar (2)
See description under Division of Teacher Education.

453 Life Science Concepts (3)
Biological principles using science processes appropriate for elementary teachers. For candidates for the multiple subjects teaching credential. (2 hours lecture, 2 hours activity)

454 Methods of Communicating Environmental Education (3)
Prerequisite: upper-division standing. Curriculum development and administration practices relating to the operation of a nature interpretation center. Classroom techniques and new ideas in outdoor education are field tested and developed for classroom use. (3 hours lecture)

479A,B Naturalist Internship (3,3)
Prerequisite: consent of instructor. Supervised in-service training at the Tucker Wildlife Sanctuary. For the prospective biological science teacher, communications major and others interested.

499 Independent Study (1–3)
Special topic in science education, selected in consultation with and completed under supervision of the instructor. May be repeated for credit.

525 Environmental Conservation Seminar (3)
Prerequisites: graduate standing in the environmental studies program and/or teachers fulfilling the conservation education requirements outlined in the Milias and Stull bills (SB 1–1968; SB 243–271). Man's impact upon the environment.

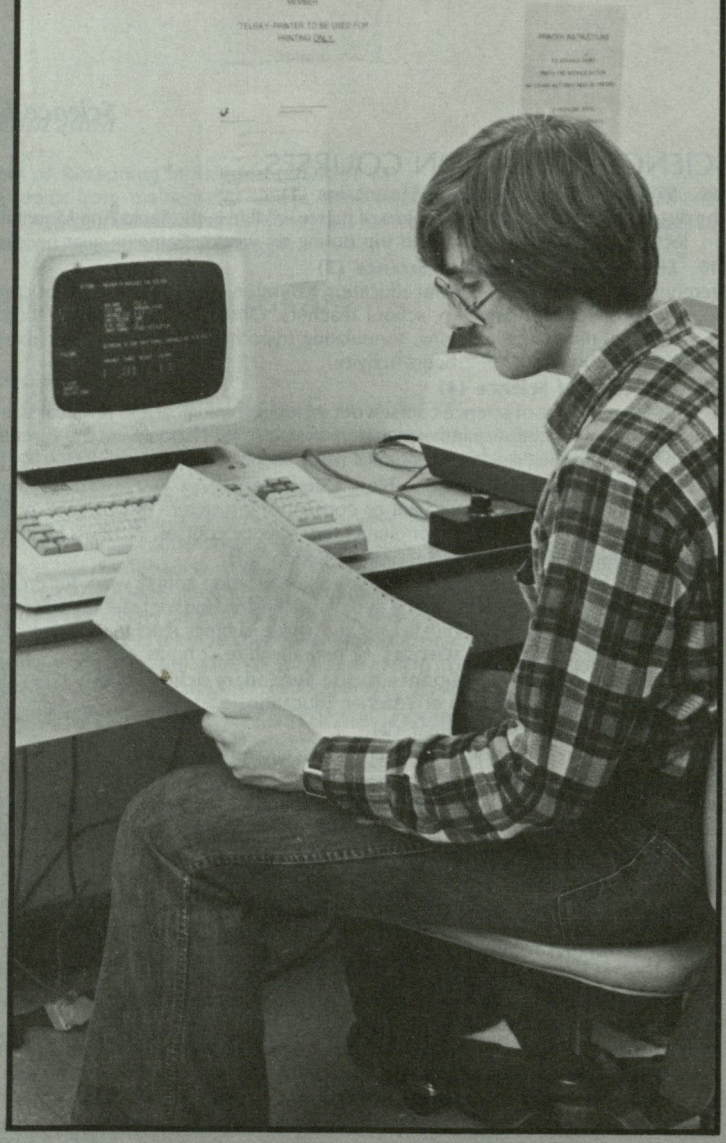
550 Theoretical Designs in Science Education (3)
Prerequisites: B.A. degree in a science area, plus a teaching credential in that science subject matter. The designs, models, assumptions of the many national curriculum projects in science at the secondary level. The successes and failures of these projects. (3 hours lecture)

552 Review of Research in Science Education (3)
Prerequisites: graduate standing. A review of relevant literature requisite to individual research design and execution of appropriate experimental or observational procedures to test hypotheses concerning problems in science education. (3 hour lecture/discussion format; inquiry mode)

554 Issues in Science Education (3)
Prerequisite: Sci Ed 552. Major contemporary issues in science education. (3 hours lecture)

598 Thesis (6)
Prerequsite: advancement to candidacy and an appointed thesis committee. The selection, investigation and written presentation of a problem in science education.

599 Independent Graduate Research (1-2-3)
Prerequisites: Sci Ed 552, graduate standing, and consent of instructor with whom the student wishes to study. Student research in a specific area of science education. May be repeated for credit.



GRADUATE PROGRAMS

GRADUATE PROGRAMS

OFFICE OF GRADUATE AFFAIRS

The Office of Graduate Affairs coordinates and administers the university program of graduate study, under the direction of the associate vice president for academic programs/dean of graduate studies. In addition, each academic area offering a graduate degree has designated a faculty member to serve as the graduate program adviser for the graduate program within the particular area.

Each graduate student's program for a master's degree is reviewed by the Office of Graduate Affairs when the academic area offering the degree recommends classified standing. A review is also made to verify that the official records confirm the satisfactory completion of course work and other requirements as shown on the study plan, that statewide and all-university requirements have been met, and that each student has completed the detailed requirements of a particular program. Questions which arise in the process of review are discussed with graduate program advisers and students as needed.

Requests by students for classified standing are made in the academic area offering the particular program and students are informed by mail by the Office of Graduate Affairs when action has been taken. As a result of the student's request for a graduation check, initiated by the student prior to registration for the last semester, the Office of Graduate Affairs conducts the completion review and makes the final verification for award of the degree.

Although every effort has been made to provide complete details of the graduate program in this catalog, there may be times when the Office of Graduate Affairs can add to or clarify information.

Graduate Assistantships

A limited number of appointments as graduate assistants are available for outstanding graduate students who are in graduate standing in graduate degree programs. These may pay up to $2,450 per semester. If interested, consult with the dean or chair of the appropriate academic area. Graduate assistants must be classified either prior to appointment or during the first semester of appointment. Teaching fellowships are not currently available.

Graduate Student Associations

Several graduate student associations have been formally organized: Omega Chapter of Phi Delta Gamma, National Fraternal Organization for Graduates; Counseling Department Student Association; Environmental Studies Student Association; Reading Educators' Guild; and the Reading Graduate Student Council.

DEGREE AND CERTIFICATE PROGRAMS OFFERED*

California State University, Fullerton offers graduate degrees and/or a certificate in the following majors:

American Studies (M.A.)
Anthropology (M.A.)
Art (M.A.)
Art—Museum Studies (Certificate)
Biology (M.A.)
Business Administration (M.B.A.)
Chemistry (M.A.)
Communications (M.A.)
Communicative Disorders (M.A.)
Comparative Literature (M.A.)
Computer Science (M.S.)
Counseling (M.S.)
Economics (M.A.)
Education (M.S.)
Engineering (M.S.)
English (M.A.)
Environmental Studies (M.S.)
French (M.A.)
Geography (M.A.)
German (M.A.)
History (M.A.)
Linguistics (M.A.)
Management Science (M.S.)
Mathematics (M.A.)
Music (M.A.; M.M.)
Physical Education (M.S.)
Political Science (M.A.)
Psychology (M.A.; M.S.)
Public Administration (M.P.A.)
Science (M.A.T.)
Social Sciences (M.A.)
Sociology (M.A.)
Spanish (M.A.)
Speech Communication (M.A.)
Taxation (M.S.)
Theatre Arts (M.A.; M.F.A.)

* For course descriptions, consult the appropriate school or department in the foregoing section of this catalog.

Development of a Special Major master's degree program may be possible. Consult the statement under "University Curricula."

Within some of the degree programs listed above a variety of areas of concentration are possible. Consult the Office of Graduate Affairs or the appropriate graduate program adviser for further information.

Graduate regulations applicable to all programs are outlined in the section following the detailed program descriptions.

AMERICAN STUDIES—MASTER OF ARTS

Offered by the Department of American Studies in the School of Humanities and Social Sciences

The degree is for qualified students in the arts, humanities and social sciences who are interested in an interdisciplinary approach to American society and culture. The program puts a general emphasis on the processes of social and cultural change. Particular areas of faculty concentration within the program include: popular culture, white ethnicity, regionalism, film-art-architecture as cultural image, Puritanism, sexuality and American culture, and American cultural radicalism, though the student is encouraged to draw upon the knowledge and expertise available in any relevant area of the arts, humanities and social sciences. The interdisciplinary form of training, with a focus on a unified approach to American materials, seeks to provide a full vision of our particular complex industrial culture.

Admission to Graduate Standing: Conditionally Classified

A student must meet the all-university requirements for admission. (Please consult the appropriate section of this catalog for complete information.) In addition, a student must (1) hold a bachelor's degree with a major, or its equivalent, in American studies or in an appropriate discipline of the humanities or social sciences, (2) have a grade-point-average of at least 3.0 in upper-division major courses, and (3) submit two satisfactory letters of recommendation from instructors in upper-division major courses.

Students whose undergraduate program indicates certain limited subject, grade, or breadth deficiencies may be considered for admission, at the discretion of the graduate coordinator, with approval of the department's graduate committee. In such cases, a student must make up deficiencies, in consultation with the graduate program adviser, and must complete all required courses with at least a B average before classified graduate standing may be considered.

Graduate Standing: Classified

Students will be classified upon fulfillment of the above prerequisites, and after development of an approved study plan.

Study Plan

The program requires 30 units of graduate study: 15 units in the discipline of American studies, 12 units in an outside area of concentration, and 3 units in development of an appropriate research skill.

1. American studies ..... 15 units
   - A. Required courses
     - American Studies 501 Graduate Seminar in the Theory and Methods of American Studies (3)
     - American Studies 502 Graduate Colloquium in American Studies: Selected Topics (3) (May be repeated for credit with different topic)
   - B. Electives
     - Additional upper-division or graduate level course work in American studies (6)

Choose *either* C. or D. as follows:

- C. American Studies 598: Thesis (3) Should be taken in the semester immediately preceding graduation from the program.
- D. An additional American Studies graduate level elective, i.e., American Studies 599 or American Studies 502 (3), plus successful completion of a three-part comprehensive examination.

  This examination is based on the department's core reading list, which can be obtained from the graduate program adviser. The M.A. Comprehensive is a four-day take-home examination, given out on the Thursday before classes begin each semester. Students must register their intention to take the exam with the graduate coordinator in the beginning of the semester they wish to complete their M.A.

2. Outside area of concentration (anthropology, art, comparative literature, English, geography, history, political science, sociology) ..... 12 units
   A. A graduate level seminar (3)
   B. Additional upper-division or graduate level course work (6)
   Note: A. and B. must be selected from a single area
   C. A second graduate seminar which may be chosen from the same area as A. and B. or from a related area, at the student's discretion (3 units)
3. Elective skill ..... 3 units
   A student must demonstrate proficiency in a methodological skill appropriate to his or her scholarly interests. In consultation with an adviser, the student will select the skill to be developed. Proficiency in a foreign language, quantitative methods or linguistics would, for example, be appropriate. If prerequisite work is necessary before a student can develop proficiency through three units of course work, that preliminary work will not be counted toward the 30 units required for the M.A. degree.

For further information, consult the graduate program adviser.

ANTHROPOLOGY—MASTER OF ARTS

Offered by the Department of Anthropology in the School of Humanities and Social Sciences

The program offers advanced study of general anthropology, while simultaneously encouraging specialization in one (or more) of the traditional subdisciplines: archaeology, cultural anthropology, linguistics and physical anthropology. Opportunities for field and laboratory research and for other related learning experiences permit students to enlarge upon formal classroom training and to work independently with original data.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Admission is contingent upon evaluation and acceptance by the Graduate Study Committee. The applicant must submit: department questionnaire, letter of intent, transcripts, and at least two letters of recommendation.

Students with limited subject or grade deficienceis may be considered for admission to the program if they agree to complete additional courses selected by the Graduate Study Committee, with at least a 3.0 (B) average. Students entering from other colleges and universities and/or from fields other than anthropology may discuss appropriate course substitutions with the Graduate Study Committee.

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be granted classified graduate standing upon the development of an approved study plan:

1. A bachelor's degree with a minimum of 27 units in anthropology, including the following courses or their equivalents.
   101 Introduction to Physical Anthropology (3)
   102 Introduction to Cultural Anthropology (3)
   103 Introduction to Archaeology (3)
   Either 401 Ethnographic Field Methods (3) *or*
   403 Archaeological Field Work (3)
   Either 406 Descriptive Linguistics (3) *or*
   416 Anthropological Linguistics (3)
   480 History of Anthropology (3)
   481 Contemporary Anthropology (3)
   One areal course (e.g., Anthropology 321, The American Indian)
   One theoretical or topical course (e.g., Anthropology 302, Culture and Personality: Psychological Anthropology)
   Reading courses and special examinations may be substituted for some of these prerequisites by the department.
2. A GPA of 3.0 (B) for all work taken in anthropology.

3. Classification review administered by the graduate adviser.

Study Plan

The study plan for the degree must include the following:

	Units
1. Anthropology 501 Seminar: Methodology of Anthropological Research	3
2. Anthropology 502 Contemporary Theory in Cultural Anthropology	3
3. *Either* Anthropology 598 Thesis *or* Anthropology 597 Project	6
4. Two additional graduate seminars in anthropology	6
5. Upper division or graduate work in anthropology	6
6. Upper division or graduate work in anthropology *or* related fields	6

Any adviser-approved 300- to 400-level course taken as a graduate student may be used for requirements 5 and 6. Anthropology 599, Independent Graduate Research, may be used for requirement 5 and/or 6.

For continuation in the program an average of 3.0 (B) for all work in the study plan must be maintained.

Students must remain continuously enrolled, either by enrolling in at least one anthropology course each semester or by enrolling in Graduate Studies 700. Students may request a waiver of this requirement for one or two semesters if professional purposes require absence from campus. A student who is not continuously enrolled will be required to apply for readmission to the program. A thesis or a project, including an oral examination, must be completed for the degree. Normally a student will register for thesis or project two times, for three units each semester. Anthropology 501 and 502, must be taken within the first 1½ years of graduate work.

The progress of graduate students will be reviewed prior to classification and again before advancement to candidacy.

For further information, consult the graduate program adviser. See also the Department of Anthropology's student brochure.

ART—MASTER OF ARTS

Offered by the Department of Art in the School of the Arts

The program of studies leading to this degree provides a balance of study and practice for those who wish a stronger educational and experiential basis for a professional career in the visual arts, or who wish advanced study in preparation for further graduate work in the field. This graduate program is for students who are seriously committed, responsible, experienced and concentrated within a specific area of art. The program offers the following areas of concentration: (1) drawing and painting (including printmaking); (2) sculpture; (3) crafts (including ceramics, glass, fibers, jewelry/metalsmithing); (4) design (including environmental design, graphic design, illustration, wood, exhibition design, or creative photography); and (5) art history.

Prerequisites

1. Conditionally classified standing requires:
   A. A baccalaureate degree from an accredited institution.
   B. GPA minimum of 2.5 in the last 60 semester units attempted.
   C. Special requirements:
      (1) Studio program: satisfactory review of preliminary portfolio by a faculty member in the area of studio concentration.
      (2) Art history program: satisfactory preliminary interview by a faculty member in art history.
2. Classified standing requires:
   A. An approved undergraduate major in art *or* 24 units of approved upper division art including at least 12 units in the area of concentration completed with grades of B or better.
   B. Portfolio review—before any units may apply to the approved study program for the degree, the student must arrange an area faculty committee evaluation of the student's background, including a statement of purpose by the student and review of creative work; or, for art history applicants, submission of assigned research papers. Portfolio review dates are in April for the following fall semester, and in November for the following spring semester of each year. Arrangements may be made through the Art Department office to meet these deadlines prior to admission.
   C. Art history program: reading knowledge of either French or German required before advancement to candidacy.

D. Development of an approved study plan.

Study Plan

The degree program requires 30 units of graduate study approved by the student's graduate committee of which 15 must be 500-level courses. The 30 units are distributed as follows:

	Units
1. Core courses in art history, philosophy, analysis and criticism	9
A. Studio program: Art 500A Graduate Seminar in Major Field (3 units) Art history program: Art 511, Seminar on the Content and Method of Art History (3 units) (ADMISSION WITH CLASSIFIED STANDING ONLY)	
B. Studio Program: Art 500B Graduate Seminar in Major Field (3 units) Art history program: Art 512, Seminar on Selected Topics in Art History (3 units) (ADMISSION WITH CLASSIFIED STANDING ONLY)	
C. Art 481 Seminar in Art History (3 units), or substitute of a 400-level course in art history, theory, analysis or criticism on the recommendation of the major adviser.	
2. 500- and/or 400-level courses in the area of concentration selected from one of the following (minimum of six units at 500 level)	12
A. Drawing and painting (including printmaking)	
B. Sculpture	
C. Crafts (including ceramics, glass, fibers, wood, jewelry/metalsmithing)	
D. Design (including environmental design, graphic design, illustration, exhibition design, or creative photography)	
E. Art history	
3. Additional course work in the area of concentration or approved electives	3 to 6
4. Art 597, Project (for studio); or Art 598, Thesis (for art history)	3 or 6
Total	30

The M.A. study plan must be completed with a B average, and all courses in the area of concentration be completed with grades of B or better. Every graduate student is required to demonstrate writing ability commensurate with the baccalaureate degree. Please refer to the section on Graduate Regulations for further clarification. The Department of Art requires the studio candidate for the Master of Arts in Art to exhibit the project in one of the department's graduate galleries prior to graduation. The art history candidate is required to submit a written thesis based on a specific topic of research.

For further information consult the graduate program adviser.

ART—MUSEUM STUDIES CERTIFICATE

Offered by the Department of Art in the School of the Arts

Courses leading to the certificate are designed to educate students in museum practices in preparation for entry into the museum profession. The curriculum includes instruction in the historical development and philosophical basis of collections, exhibitions and their design, and curatorship. A museum internship is required. The certificate in museum studies may be undertaken as a self-contained program or may be taken in conjunction with the Master of Arts in Art degree or, by special permission, with other graduate degrees in the university.

Prerequisites

1. B.A. in Art or other major by special permission
2. Specific course prerequisites:
   A. 12 units in upper division art history
   B. 6 units in graphic design and exhibition design
   C. 3 units of advanced writing (Communications 435, Editorial and Critical Writing; or Communications 362, Public Relations Writing; or English 301, Advanced College Writing
   D. 3 units of beginning accounting

Study Plan

The certificate program requires 24 units. The 24 units are distributed as follows:

	Units
1. Art 463 Museum Studies	3
2. Art 481 Seminar in Art History	3

3. Theatre 460	Audience Development for the Arts	3
4. Art 483D	Exhibition Design	3
5. Art 498	Internship in Art	3
6 Art 501	Curatorship	3
7. Art 503D	Exhibition Design	6
Total		24

For further information, consult the Department of Art.

BIOLOGY—MASTER OF ARTS

Offered by the Department of Biological Science in the School of Mathematics, Science and Engineering

The program is based on the assumption that modern science necessitates broad preparation through the master's level of training. In design it offers sufficient breadth and depth to strengthen the student's academic understanding and improve competence for (a) advanced graduate work toward the doctoral degree in biological science, (b) teaching at all levels—elementary, secondary and community college, (c) participating in research programs, (d) participating in various field service and conservation positions with both the state and national governments, (e) entering the field of public health service, or (f) technological work in the health sciences.

Admission Requirements

An applicant must meet the university requirements for admission, which include a baccalaureate from an accredited institution, and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures). In addition to the university requirements for admission, acceptance into this program is contingent upon the following: (1) a B.A. in Biological Science or related area at Cal State Fullerton or other accredited institution with a grade-point average of 3.0 in biological science courses and a GPA of 2.5 in the related courses in mathematics, chemistry and physics; (2) acceptance by a thesis adviser; and (3) satisfactory scores on one of the following: (a) Graduate Record Examination Aptitude Test and the Advanced Test in Biology; (b) Medical College Admission Test; (c) Dental Admission Test; (4) completion of departmental application; and (5) submission of two letters of recommendation.

Students with limited subject or grade deficiencies may be considered for conditional acceptance to the program. Conditionally classified graduate standing may be removed upon completion of nine units of adviser and graduate committee approved postgraduate studies in biology, mathematics, chemistry or physics, with grades of B or better.

Classified Standing

Students should achieve classified graduate standing as soon as they are eligible, since no more than nine units of graduate work taken before classification can be included on the study plan (see below) for the degree. A student who meets the admission requirements may apply for classified standing, which requires the development of a study plan approved by the adviser, thesis committee, departmental graduate committee, and dean of graduate studies.

Advancement to Candidacy

Advancement to candidacy is attained by requesting a graduation check and receiving subsequent approval of the graduate program adviser on Form B, mailed by the Office of Graduate Affairs. Students no longer need to make a separate request for candidacy.

Study Plan

A study plan includes a minimum of 30 units of adviser-approved graduate work; at least one-half of the total units must be at the 500-level. All study plans must include Biol 599, Independent Graduate Research, and Biol 598, Thesis, and at least one departmental seminar. Six units must be outside the principal area. Required is a thesis or a published paper, or a paper accepted for publication, acceptable to the adviser and committee, covering a research problem. A final oral examination on the student's research is also required.

Supervising the work of graduate students requires the personal attention of advisers. To insure that advisers are available for new graduate students a graduate student is expected to complete the requirements for graduation within three years after classification.

Students who are graduate assistants should complete the classification step either prior to appoint-

ment or during their first semester of appointment. They must become classified before being reappointed.

For more detailed information or advisement, students should contact the Biological Science Department, or the graduate program adviser of the Biological Science Department.

Medical Technology Emphasis

This non-thesis program is designed for Licensed Medical Technologists employed in the field who desire to enhance their scientific training. The program of study includes 30 units of courses offered specifically for this program. For further information, contact the program director in the Biological Science Department.

BUSINESS ADMINISTRATION—MASTER OF BUSINESS ADMINISTRATION

Offered by the School of Business Administration and Economics

This is the only M.B.A. degree program in Orange County *accredited* by the American Assembly of Collegiate Schools of Business. This assures a rigorous, in-depth program, covering the full spectrum of business administration. Accreditation also indicates a well-qualified faculty, high standards for students, and access to an extensive library system.

Programs of Study

The School of Business Administration and Economics offers two plans for the M.B.A. degree.

The *short plan* is for students with an undergraduate degree in business administration. This plan has 11 courses and may be completed in one year (full-time) or 2½ years (part-time). The required courses cover business administration at an advanced level. Students then take several courses in an area of concentration, and a final, integrating course. The areas of concentration are accounting, business economics, finance, international business, management, management science and marketing.

The *long plan* is for students with an undergraduate degree *other than* business administration. This plan has 19 courses and may be completed in two years (full-time) or 5 years (part-time). Foundation courses survey the entire field of business administration. Advanced seminars, electives and a final, integrating course complete the curriculum.

The M.B.A. program is *scheduled* especially for students who are employed full time. Courses are offered during the late afternoon and evening. Most students enroll on a part-time basis, taking two courses (6 units) per semester.

Most *graduate courses* in the School of Business Administration and Economics require "classified SBAE status" and are open only to students with classified standing in the M.B.A., M.S. in Management Science, M.S. in Taxation or M.A. in Economics programs.

Admission

Students meeting the following requirements will be admitted to *postbaccalaureate—unclassified* standing:

1. Acceptable bachelor's degree from an appropriately accredited institution, or equivalent.
2. Grade-point average of at least 2.5 in the last 60 semester units attempted and in good standing at last college attended.

Note: Postbaccalaureate—unclassified students may enroll in undergraduate courses (100 thru 400 level) but are generally ineligible for graduate business courses (500 level). Such students may wish to take undergraduate courses which are necessary to meet the requirements for classified standing (see below). Upon completing the requirements, the student may file an "Application for Change of Academic Objective—Graduate" requesting admission to the M.B.A. program. Admission to the university as a postbaccalaureate—unclassified student *does not* constitute admission to the M.B.A. program, does not confer priority, nor does it guarantee future admission. Students planning to apply for admission to the M.B.A. program should confer with the graduate adviser in the School of Business Administration and Economics.

Students meeting the following *additional* requirements will be admitted to the M.B.A. program with conditionally classified standing:

3. Combination of grade-point average and score on the Graduate Management Aptitude Test (GMAT) sufficient to yield a score of at least 950 according to one of the following formulas. Due to limited facilities and resources in the School of Business Administration and Economics, a higher score may be required of all applicants.

A. If overall undergraduate GPA is at least 2.5 and GMAT is at least 450, then score = (GPA × 200) + GMAT
B. If overall undergraduate GPA is below 2.5 or GMAT is below 450, then score = (GPA × 200) + GMAT − 50
C. If GPA is based on the last 60 semester units of course work * then score = (GPA × 200) + GMAT − 100

Note: Conditionally classified students may take a limited number of graduate courses (500 level), subject to the approval of the graduate adviser of the School of Business Administration and Economics. Students are expected to advance promptly to classified standing. In particular, any deficiencies in calculus or computer programming must be removed during the first 12 months of study. Students who do not do so will not be allowed to continue in the program.

Students meeting the following *additional* requirements will be advanced to classified standing. Such students are eligible to take graduate courses for which they are qualified.

4. A. *(Long plan only)* Proficiency in calculus and computer programming equivalent to passing Mathematics 135, Business Calculus (3 units) and Management Science 264, Introduction to Computer Programming (2 units). Students with work experience in these fields may demonstrate proficiency by passing a challenge examination, and should consult the chair of the Management Science Department for details.
   B. *(Short plan only)* A bachelor's degree with a major in business administration which meets the requirements stated in this catalog for such degrees. The degree must include calculus and computer programming equivalent to passing Mathematics 135, Business Calculus (3 units) and Management Science 264, Introduction to Computer Programming (2 units). Courses in the major are to be no more than seven years old, and must have at least a 3.0 (B) grade point average. Courses with grades lower than C must be repeated.
5. Approval of study plan.

Curriculum—Long Plan

The curriculum for the long plan requires 57 units of courses and a passing score on the Business Foundation Exam. Students should meet as soon as possible with the graduate adviser in the School of Business Administration and Economics. Students must remove any deficiencies in calculus or computer programming during the first year of study. Advancement to classified standing requires removal of all deficiencies and approval of study plan. Any study plan course in which a D grade is received must be repeated, and must receive at least a C grade, regardless of the overall grade-point average of the student.

Foundation Courses

Accounting 510 Financial Accounting (3)
Accounting 511 Seminar in Managerial Accounting (3)
Economics 514 Principles and Problems of Economic Policy, A (3)
Economics 515 Principles and Problems of Economic Policy, B (3)
Finance 517 Managerial Finance (3)
Management 516 Organizational Theory and Management of Operations (3)
Management 518 Legal Environment of Business (3)
Management Science 512 Management Science Techniques for Business and Economics, A (3)

Note: The prerequisites for Management Science 512 and 513 include calculus and computer programming.

Management Science 513 Management Science Techniques for Business and Economics, B (3)
Marketing 519 Marketing Management (3)

Advanced Courses

Accounting 521 Seminar in Administrative Accounting (3)
Economics 522 Comparative Economics Seminar (3)

---

* All work within any given quarter or semester must be included even though that will result in more than 60 semester units. The units to be included in the last 60 semester units may come only from the following: (1) Work taken in postbaccalaureate status during the last seven years towards fulfilling M.B.A. coursework requirements; (2) units taken under a prescribed remedial program agreed to by the associate dean, academic programs, School of Business Administration and Economics; (3) units earned prior to the bachelor's degree.

Finance 523 Seminar in Corporate Financial Management (3)
Management 524 Seminar in Organizational Behavior and Administration (3)
Management Science 526 Decision Analysis (3) *or*
Management Science 560 Operations Research (3)

Note: The prerequisites for these management science courses include calculus and computer programming.

Marketing 525 Seminar in Marketing Problems (3)

and 6 units of electives at the 400 or 500 level

Note: At least 6 units of the 9 units for cost accounting (Accounting 511 or equivalent) and electives must be taken at the graduate level.

Terminal Evaluation Course

Business Administration 596 M.B.A. Management Game (3)

Curriculum—Short Plan

The curriculum for the short plan requires 33 units. Students should meet as soon as possible with the graduate adviser of the School of Business Administration and Economics. Students must remove any deficiencies in calculus or computer programming within one year. Advancement to classified standing requires removal of all deficiencies and approval of study plan. Any study plan course in which a D grade is received must be repeated, and must receive at least a C grade, regardless of the overall grade-point average of the student.

Required Courses

All of the following courses are required. (*Exception:* Students with a concentration in International Business are required to take only five of the following courses and may take both Economics 515 and Economics 522.)

Accounting 511 Seminar in Managerial Accounting * (3) *or*
Accounting 521 Seminar in Administrative Accounting (3)
Economics 515 Principles and Problems of Economic Policy, B (3) *or*
Economics 522 Comparative Economics Seminar (3)
Finance 523 Seminar in Corporate Financial Management (3)
Management 524 Seminar in Organizational Behavior and Administration (3)
Marketing 525 Seminar in Marketing Problems (3)
Management Science 526 Decision Analysis (3) *or*
Management Science 560 Operations Research (3)

Note: The prerequisites for these management science courses include calculus and computer programming.

Concentration Courses (except international business)

12 units of courses in *one* area of concentration:

Accounting	Management
Business Economics	Management Science
Finance	Marketing

Concentration courses are to be approved by the department chair concerned, or designee within the department, and the associate dean, academic programs. Note: Students choosing the accounting concentration may have to take Accounting 301A, B Intermediate Accounting and/or Accounting 308, Federal Income Tax, as prerequisites to their concentration courses.

Concentration Courses—International Business

All of the following courses are required. (Note that students with an international business concentration take only five of the six courses listed above under Required Courses.)

Accounting 518 Seminar in International Accounting (3)
Finance 570 Seminar in International Financial Management (3)
Management 548 Seminar in International Management (3)
Marketing 558 Seminar in International Marketing (3)

and 3 units of electives to be approved by the international business adviser.

Terminal Evaluation Course

Business Administration 596 M.B.A. Management Game (3)

* Students who have credit in cost accounting may not receive credit for Accounting 511.

CHEMISTRY—MASTER OF ARTS

Offered by the Department of Chemistry in the School of Mathematics, Science and Engineering

The degree is designed to qualify students for more advanced work in chemistry, to provide preparation which will lead to responsible positions in industrial or government research and development laboratories, and to provide preparation for the effective teaching of chemistry in the high schools and community colleges.

The program provides fundamental courses at a level and depth commensurate with those taken during the first year of a doctoral program and provides an introduction to research and research methods.

Admission

Students must meet the university requirements for admittance to the university. This normally requires a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted. (See the section of this catalog on admission of graduate students for a complete statement and procedures.) In addition to university requirements, in order to achieve conditionally classified standing in the chemistry program, a student must meet the following requirements:

1. An undergraduate degree in chemistry or a selection of science courses deemed as adequate preparation for further study in chemistry by the Department Graduate Committee; and
2. A 2.5 GPA in upper division chemistry courses.

Classified Standing

Each student is required to take qualifying examinations in the areas of physical and organic chemistry plus two from the areas of analytical, inorganic or biochemistry. The results of these examinations are used in advising the student and as criteria for advancement to classified standing. In order to proceed from conditionally classified to classified standing, the student must meet the following requirements:

1. Satisfactory grades on three of the four qualifying examinations or completion of department approved courses in these areas with grades of B or better;
2. Completion of the computer or foreign language requirement (see following paragraph);
3. Approved selection of a research director; and
4. An approved study plan.

The department's foreign or computer language requirement, to be demonstrated before advancement to candidacy, may be met in any one of the following ways: (1) by passing 10 semester units of an approved foreign language (e.g., Chinese, French, German, Japanese or Russian) at the college level; (2) by passing an approved challenge examination in a foreign language; or (3) by passing Engineering 205, Digital Computation, and 403, Computer Methods in Numerical Analysis, or (4) by passing Computer Science 112, Introduction to Computer Programming, and either 210, Introduction to Machine Languages and Logic, or 212, Introduction to Computational Languages.

Study Plan

Two alternatives are available for the study plan. A thesis plan involves course work and laboratory research while the project plan involves course work and library research.

The degree program consists of 30 units of graduate committee-approved course work completed with a minimum grade-point average of 3.0 in all course work exclusive of Chemistry 505A,B and 599. Each student prepares a study plan in consultation with his research director which must be approved by the graduate program adviser, the department, and the dean of graduate studies. All chemistry courses on the study plan must be 400 level or above.

Study plans may contain no more than 2 units of Chemistry 505, and no more than 6 units of Chemistry 599 (3 units for students electing the project alternative).

1. *Basic requirements*

The following courses are required of all students:	*Units*
Chemistry 505A,B Seminar	2
Chemistry 599 Independent Graduate Research	3
Chemistry 598 Thesis or Chemistry 597 Project	1–2

2. *500-Level Requirements*

Each student is required to take at least two 500-level courses other than those listed above. A minimum total of 15 units of 500-level courses is required.

3. *Specialization Requirements*
   The courses in the study plan must include a minimum of nine units (not including Chemistry 505A,B, 597, 598, 599) in one of the following areas of specialization, including related areas: (1) analytical chemistry; (2) biochemistry; (3) inorganic chemistry; (4) organic chemistry; (5) physical chemistry.
4. *Breadth Requirements*
   In order to insure sufficient breadth and background, one course is required from each of the following groups if the student has not passed (with a B or better) an equivalent course as an undergraduate. However, courses taken as an undergraduate cannot be applied to the 30 units required for graduation, unless they are in excess of the undergraduate degree requirement.

		Units
Group I—Chemistry 411	Instrumental Analysis	4
Chemistry 425	Advanced Inorganic Chemistry	3
Group II—Chemistry 423A	General Biochemistry	3
Chemistry 431	Advanced Organic Chemistry	3
Group III—Chemistry 450	Advanced Physical Chemistry	3
Chemistry 451	Quantum Chemistry	3

(Students specializing in biochemistry may, upon approval of the graduate adviser, substitute Chemistry 543, Physical Biochemistry, in place of 450 or 451; but in that case, 543 may not be applied toward the specialization requirement (3 above).)

Course work applicable to the areas of nutritional biochemistry, clinical chemistry, trace analysis, and toxicology is available and may be planned in consultation with the graduate adviser of the Chemistry Department. For further details or advisement concerning the M.A. program, contact the graduate adviser.

Emphasis in Geochemistry

This option is designed to provide students with a solid base in chemistry and earth science, and who are prepared either for continuation of studies toward a Ph.D. in geochemistry, or for direct job entry as a geochemist. The aggregate of courses is designed to provide the depth and breadth of fundamentals required for a successful career in geochemistry.

Prerequisites

The prerequisites are the same as for the M.A. degree in chemistry except that to achieve conditionally classified standing, a student must meet the following requirements:

1. An undergraduate degree in either chemistry or earth science (or equivalent title such as geology), with at least 20 semester units in earth science/geology for the chemist and 26 semester units in chemistry for the earth scientist, or a combination of chemistry and earth science courses which the geochemistry graduate committee deems to be adequate preparation.
2. A 2.5 GPA in upper-division chemistry and earth science/geology courses.

Each student is required to take qualifying examinations in the areas of physical chemistry and earth science plus two from the areas of analytical chemistry, inorganic chemistry, or organic chemistry. See the M.A. degree in chemistry for additional prerequisites.

Study Plan

The study plan for the degree is the same as for the M.A. in Chemistry with changes of items 3 and 4 as follows:

3. The courses in the study plan must include a minimum of nine units (not including Chemistry 505, 597, 598, 599) in the area of specialization with at least six of these units at the 500 level. Courses in the area of specialization must be taken from both earth science and chemistry and must include either Earth Science 406 or 506. Courses appropriate for a specialization in geochemstry are as follows:

A. Earth Science 506—Topics in Geochemistry	*Units*
Isotope Geochemistry	3
Aqueous Geochemistry	3
Crystal Chemistry	3
Solid Phase Geochemistry	3
Geochemical Exploration	3
B. 500-Level Chemistry	
Chem 511 Theory of Separations	3

	Chem 580 Topics in Advanced Chemistry	3
C. Undergraduate Courses		
	Earth Science 406 Geochemistry	3
	Earth Science 407 Instrumental Methods in Earth Science	3

4. In order to insure sufficient breadth and background, each student is required to take one course from each of the following groups if he has not passed with a B or better an equivalent course as an undergraduate. However, courses taken as an undergraduate cannot be applied to the 30 units required for graduation.

		Units
Group I	Chem 411 Instrumental Analysis	4
	Chem 425 Advanced Inorganic Chemistry	3
	Earth Science 400 Optical Methods	3
Group II	Chem 423A General Biochemistry	3
	Chem 431 Advanced Organic Chemistry	3
	Earth Science 405 Igneous and Metamorphic Petrology	3
Group III	Chem 450 Advanced Physical Chemistry	3
	Chem 451 Quantum Chemistry	3

For further details or advisement, please contact the graduate adviser of the Chemistry Department or the Earth Science Department.

COMMUNICATIONS—MASTER OF ARTS

Offered by the Department of Communications in the School of Humanities and Social Sciences

The degree is designed to provide advanced study in communications theory and research plus some concentration in one of the department's sequences: advertising, news-editorial, public relations, or radio-television-film.

The program prepares the graduate to apply advanced communications concepts, research and development skills, and theories relevant to the use of communications media for a wide variety of purposes. Such study may serve those whose careers involve the use of print, broadcast and film media of communications to inform, instruct and persuade. Communications skills are highly applicable to a wide range of careers in business, industry, government, education and the mass media.

Students completing the Master of Arts in Communications are eligible for journalism teaching positions in community colleges.

Admission to Graduate Standing: Conditionally Classified

Normally, an applicant must meet grade-point average requirements of 3.0 in the undergraduate major and 2.75 in the last 60 semester units of undergraduate course work, meet the university requirements, and satisfactorily complete the Graduate Record Examination General Test prior to admission. Consult department for details regarding additional admission requirements.

Graduate Standing: Classified

A student admitted in conditionally classified standing may be granted classified standing upon the development of an approved study plan and satisfactory completion of prerequisite course work.

Study Plan

The student is required to complete 30 units of approved studies with a minimum grade-point average of 3.0 including 15 units in 500-level communications courses. Six of the 15 units of 500-level courses will be in a thesis or project. The remaining units will be comprised of upper division or 500-level courses appropriate to the communications sequence.

The candidate shall develop a program of study in consultation with a sequence adviser and the graduate adviser of the Department of Communications. The candidate shall plan the thesis or project topic with a committee. The committee will include at least two faculty members from the Department of Communications.

Required 500-level courses:	*Units*
Communications 500 Theory and Literature of Communications	3
Communications 508 Humanistic Research in Communications *or*	3
Communications 509 Social Science Research in Communications	
Communications 515 Professional Problems in Specialized Fields	3

Communications 597 Project *or*	6
Communications 598 Thesis	
Total required 500-level units in communications	15
Sequence-Related Courses:	
Consult Communications Department Master's Program Bulletin for sequence requirements.	
Total required upper division or graduate units (including 520A or B or approved alternate)	15
Total	30

For further information and advisement, please consult the graduate program adviser, Department of Communications.

COMPARATIVE LITERATURE—MASTER OF ARTS

Offered by the Department of English and Comparative Literature in the School of Humanities and Social Sciences

The master's degree program in comparative literature promotes the understanding of other literatures, peoples and cultures in various historical periods, including the present, provides background for more advanced degrees, prepares teachers of world literature in the high schools and community colleges and provides a liberal arts background for library studies.

Admission to Graduate Standing: Conditionally Classified

University requirements include a bachelor's degree from an accredited institution and a minimum GPA of 2.5 in the last 60 semester units attempted.

Graduate Standing: Classified

Classified standing requires:

1. An undergraduate major in comparative literature, English or foreign language with a GPA of 3.0 or better in the major courses and a GPA of 2.5 in all other college and/or university work. If the student's degree is in another field, a total of 24 units of upper-division work in comparative literature, English, or foreign language, with a GPA of 3.0 will be required.

   If the student lacks the prerequisite number of courses, they must be taken before beginning work in the master's degree program, with at least a 3.0 in such makeup course work. If the student's GPA in these probationary courses is 3.0 or better, classified standing may be granted. Courses taken to remove qualitative and quantitative deficiencies may not be applied to the M.A. program.
2. Satisfactory completion of a written examination in an approved foreign language, or satisfactory completion of an upper-division course taught in an approved foreign language.
3. Development of an approved study plan.

Study Plan

A minimum of 30 units of course work must be completed with a minimum GPA of 3.0 to be distributed as follows:

	Units
1. A minimum of 18 units in 500-series courses:	
Courses at the 500 level in comparative literature or courses cross-listed in English (one adviser-approved 500-level course in English may help satisfy this requirement)	15
A course at the 500 level in a related area	3
2. Upper division courses (12 units):	
Adviser-approved courses in comparative literature	6
Adviser-approved courses in a related area	6
(At least 3 units of related course work must be in foreign literature, read in the original language.)	
Total	30

At the conclusion of all course work, the student will take a comprehensive examination for the master's degree. Each section of the four-part comprehensive examination must be passed before the degree will be awarded. Any section(s) failed may be repeated once only. Notice of intention to take the examination must be on file with the graduate secretary within six weeks of the first class of the semester.

Thesis Option

The candidate may elect to write a thesis. For information consult the graduate adviser.

For further information, consult the Department of English and Comparative Literature.

COMPUTER SCIENCE—MASTER OF SCIENCE

Offered by the Department of Computer Science in the School of Mathematics, Science and Engineering

Program objectives are to: (1) prepare students for the increasingly sophisticated application of computers to the needs of industry and society; (2) prepare students for research, teaching and further graduate programs in computer science; and (3) provide graduate level course work in computer science which supplements the curriculum in other disciplines.

Admission to Graduate Standing: Conditionally Classified

A bachelor's degree from an accredited institution with a grade-point average of at least 2.5 in the last 60 semester units attempted is required. Additionally, nine units of computer science course work with a grade-point average of at least 3.0 is required. Any deficiencies must be made up and will require six or more units of adviser-approved course work with at least a 3.0 average in addition to those required for the degree.

Classified Graduate Standing

Achievement of this status requires the following:

1. Approval of a formal study plan (see description below) by the Computer Science Graduate Committee and the dean of graduate studies.
2. Satisfactory completion of no more than nine units on the study plan.
3. Satisfactory completion of Engineering 405, Mathematics 340 or Engineering 403, Computer Sci 470 or 471, and Computer Sci 302, 310, 410, or their equivalents.

Talented professional computer scientists have traditionally come from a diversity of undergraduate preparations. The listed courses have been carefully selected to provide an adequate basis for graduate work while not unfairly precluding admission of persons without a bachelor's degree in computer science. *It should be noted, however, that each of these courses has prerequisites and the student without preparation in a closely related degree may have considerable work to complete beyond the courses listed here.* Reference should be made to the catalog descriptions for prerequisites of each course deficiency.

All or a part of the following additional courses may be required:

Computer Sci 112 Introduction to Computer Programming
Computer Sci 210 Introduction to Machine Languages and Logic
Computer Sci 212 Introduction to Computational Languages
Math 150A,B Analytic Geometry and Calculus
Math 250A,B Intermediate Calculus
EG-EE 312 Digital Logic Design

These courses and their prerequisites constitute program prerequisites. Students are advised not to enroll in courses for which they have prerequisite deficiencies. Students with experience equivalent to any or all of these prerequisite courses are encouraged to satisfy such prerequisites by advance placement examination. Consult the computer science graduate adviser for further information.

Study Plan

Prior to admission to classified graduate standing in computer science, the student with the aid of the computer science graduate adviser shall prepare and submit for approval by the computer science department graduate committee a formal study plan consisting of a minimum of 30 units of 400 level and graduate course work.

This shall include Computer Sci 510, 512, 572, 597 * or 598, * Engineering 506, and either Math 540 or Computer Sci 566. At least 15 units shall represent courses offered by the Department of Computer Science. Courses offered by other disciplines, not listed here, and related to the students' objectives in computer science may be approved by petition to the Department of Computer Science.

All course work in the study plan must be completed with a GPA of at least 3.0.

---

* Students are encouraged to petition to satisfy all or part of this requirement with the equivalent course in another department where appropriate to the student's research interests.

Graduate Student Advisement

The graduate program adviser provides overall supervision of the graduate program. The individual student chooses his adviser from the full-time faculty of the Computer Science Department on the basis of his particular interests and objectives.

COUNSELING—MASTER OF SCIENCE

Offered by the Department of Counseling in the School of Human Development and Community Service

This degree offers professional preparation for those who wish to work in the helping professions in public and private educational institutions, in mental health settings, in probation work, and in community service agencies. Students exit from the program with a set of specified competencies certified by faculty at a specified level of mastery in treatment, diagnosis, prognosis, research and program development. The curriculum is accredited by the State Board of Education and by the National Council for the Accreditation of Teacher Education.

Prerequisites

The program offers a 30-unit M.S. in Counseling which represents the counseling skills acquired in the course of study. Applicants may acquire this degree objective if they possess:

1. a baccalaureate from an accredited institution;
2. a grade-point average of at least 2.5 in the last 60 semester units attempted;
3. a grade-point average of at least 3.0 *in behavioral science courses* (e.g., psychology, sociology, anthropology, communications and philosophy); and
4. appropriate experience.

For application procedures refer to the section on admission of graduate students. Applicants for admission are screened by the Academic Review Board and notified as soon as a decision is reached.

Classification

As soon as an applicant is admitted (conditionally classified) the applicant should meet with the faculty adviser to devise a study plan. Students are eligible for classified standing upon development of a study plan and achievement of satisfactory scores on a Graduate Record Examination Aptitude Test which includes the analytical score.

Study Plan

Students should consult the current *Counseling Student's Handbook* for information pertinent to the counseling program.

The study plan specifies what courses may be taken and when. Other courses deemed equivalent may be substituted with committee approval. Students not seeking certification to practice may elect to do a project or thesis in lieu of counseling 595 with a minimum 4 rating on all M.S. competencies.

M.S. Degree Courses	*Units*
Treatment: (Counseling 511, 512, 513, 514)	12
Detection: (Counseling 521)	3
Pathology: (Counseling 531, 532)	6
Two advanced courses in treatment, detection and/or pathology	6
Culmination: (Counseling 595 or 597 or 598)	3
Total	30

Students not seeking to practice counseling may elect to substitute counseling 597, Project, or 598, Thesis, in place of 595, Comprehensive Certification Seminar, with adviser consent. Later certification requires completion of 595.

(Students seeking California Marriage and Family Licensure should contact the Board of Behavioral Science Examiners for the requirements, and consult their department adviser concerning the curricular content areas that meet BBSE requirements.)

ECONOMICS—MASTER OF ARTS

Offered by the Department of Economics in the School of Business Administration and Economics

This program provides preparation for professional careers in private industry and government and provides a foundation for further graduate work at the doctoral level. Full-time and part-time students can be accommodated. Most of the courses are scheduled in the evening.

The curriculum is designed for students with an undergraduate degree in business administration or economics, and consists of 10 courses (30 units). Provided that all prerequisites have been satisfied, the program may be completed in one year (full time) or 2½ years (part time).

The required courses progress from economic theory through economic model building and forecasting to the seminar in which the student prepares a project applying economic theory and econometric methods to a specific area of investigation. The curriculum also includes five courses (15 units) of electives.

Most *graduate courses* in the School of Business Administration and Economics require "classified SBAE status" and are open only to students with classified standing in the M.A. in Economics, M.B.A., M.S. in Management Science, or M.S. in Taxation programs.

Admission

Students meeting the following requirements will be admitted to postbaccalaureate—unclassified standing:

1. Acceptable bachelor's degree from appropriately accredited institution, or equivalent.
2. Grade-point average of at least 2.5 in the last 60 semester units attempted, and in good standing at last college attended.

Note: Postbaccalaureate—unclassified students may enroll in undergraduate courses (100 thru 400 level) but are generally ineligible for graduate economics courses (500 level). Such students may wish to take undergraduate courses which are necessary to meet the requirements, for classified standing (see below). Upon completing the requirements, the student may file an Application for Change of Academic Objective—Graduate requesting admission to the M.A. in Economics program. Admission to the university as a postbaccalaureate—unclassified student *does not* constitute admission to the program, does not confer priority, nor does it guarantee future admission. Students planning to apply for admission to the program should confer with the graduate adviser in the Department of Economics.

Students meeting the following *additional* requirements will be admitted with conditionally classified standing:

3. Overall undergraduate grade-point average of at least 2.5.
4. An average score of 500 on the Graduate Record Examination Aptitude Test.

Note: Conditionally classified students may take a limited number of courses at the graduate level, subject to the approval of the graduate adviser of the Department of Economics. Students are expected to advance promptly to classified standing.

Students meeting the following *additional* requirements will be advanced to classified standing. Such students are eligible to take graduate courses for which they are qualified.

5. Completion of the following courses at Cal State Fullerton (or equivalent courses at other institutions) with a grade-point average of at least 3.0 (B average):
   Economics 100 *and* 200 Principles of Economics (3,3)
   Economics 310 Intermediate Microeconomic Analysis (3)
   Economics 320 Intermediate Macroeconomic Analysis (3)
   Economics 420 Money and Banking (3)
   or three units of upper-division electives
   Management Science 361 Statistical Methods in Business and Economics (3)
   Mathematics 135 Business Calculus (3)
6. Approval of study plan.

Curriculum

Note: Students are urged to meet as soon as possible with the graduate adviser in the Department of Economics to file a study plan and advance to classified standing.

Any study plan course in which a D grade is received must be repeated, and must receive at least a C grade, regardless of the overall grade-point average of the student.

Required Courses

Economics 440 Introduction to Econometrics (3)
Economics 502 Advanced Microeconomic Analysis (3)
Economics 503 Advanced Macroeconomic Analysis (3)
Economics 505 Economic Models and Forecasting (3)
Economics 506 Seminar in Economic Analysis (*project* required) (3)

Elective Courses

15 units of elective courses in Economics at the 400 or 500 level. (Note: With the approval of the graduate adviser of the Department of Economics, some of these courses may be in fields outside of, but related to, economics.) At least six units of elective courses must be at the 500 level, and at least six units must be in economics. Economics 596 is specifically designed to serve as an elective in this program. The topic of the course rotates every semester and it may be repeated for credit.

EDUCATION—MASTER OF SCIENCE

Offered by the School of Human Development and Community Service

This degree is reserved for professionally qualified graduate students who desire to prepare for or advance their careers in *bilingual-bicultural education (Spanish-English), elementary curriculum and instruction, higher education (postsecondary instruction) reading, school administration, special education, and teaching English to speakers of other languages (TESOL).*

Core Program

Students enrolled in the M.S. in Education degree program are required to complete a minimum of three units of course work in each of the following core experience areas: (1) educational research; (2) foundations of education; and (3) theory and methods of curriculum development. Each student must also complete an appropriate culminating experience such as a thesis, comprehensive examination, or graduate project. Specific course options for meeting these requirements are presented under the "study plan" section for each concentration.

BILINGUAL/BICULTURAL EDUCATION (SPANISH-ENGLISH)

Offered by the Division of Teacher Education

The program is designed to develop qualified bilingual/bicultural instructors who can work as either classroom or resource teachers, and teacher trainers. It will help individuals to teach others how to provide experiences in the cultural heritage of the target population and develop specific teaching techniques and methods in teaching reading and English as a second language (ESL). The program will also help individuals to interpret and implement research related to bilingual/bicultural children. Individuals will become skilled in their abilities to diagnose learning problems for such students and to develop and implement sound educational strategies.

Admission to Graduate Standing: Conditionally Classified

University requirements include: a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Graduate Standing: Classified

A student who meets the admission requirements, and the following requirements, may be granted classified graduate standing upon the development of an approved study plan: a basic teaching credential or equivalent experience, an approved major (minimum of 24 units upper division or graduate), a 2.5 grade-point average on previous academic and related work, language competence (English and Spanish) as determined by a written examination, satisfactory interviews, references and an autobiography. Credit will be given for previous postbaccalaureate studies when possible. Otherwise, well-qualified students may be admitted with limited subject or grade deficiencies, but these deficiencies must be removed. Grade-point average deficiencies may be removed by a demonstration of competency in the graduate program.

Study Plan

The adviser-approved 30 units (minimum) on the study plan will include the following:

	Units
Core course work	9
Ed-RP 510 Research Design and Analysis (3)	
Ed-TE 500 Development and Implementation of Bilingual Bicultural Curriculum (3)	
Ed-TE 541 Psychological and Sociological Foundations of Bilingual Bicultural Education (3)	
Other required teacher education courses	3
Ed-TE 542 Current Issues and Problems in Bilingual Bicultural Education	
Course work outside bilingual-bicultural education	12

Two of the following:
- Spanish 466 Introduction to Spanish Linguistics (3)
- Spanish 467 Dialectology: Current Trends in Modern Spanish (3)
- Spanish 468 Spanish-English Contrastive Analysis (3)
- Spanish 500 Graduate Seminar: Advanced Structure and Style (3)
- Spanish 530 Graduate Seminar: Historical Linguistics (3)

Two of the following:
- Chicano Studies 307 Barrio Studies (3)
- Chicano Studies 403 Cultural Differences in Mexico and the Southwest (3)
- Chicano Studies 420 Spanish for the Elementary School Teacher in the Barrio (3)
- Chicano Studies 431 The Chicano Child (3)
- Chicano Studies 438 Issues in Bilingual/Cross-Cultural Education (3)
- Chicano Studies 445 History of the Chicano (3)
- Chicano Studies 450 The Chicano and Contemporary Issues (3)

Elective selected with approval of adviser 3

Culminating experience 3

Ed-TE 594 Research Seminar *or*
Ed-TE 597 Project *or*
Ed-TE 598 Thesis

Total units 30

Students must complete a minimum of 21 of the 30 units in residence at Cal State Fullerton.

For further information consult the graduate program adviser of bilingual-bicultural education.

ELEMENTARY CURRICULUM AND INSTRUCTION

Offered by the Division of Teacher Education

The program is designed to help career classroom teachers upgrade their skills, become informed about new ideas in elementary teaching, and prepare for curriculum leadership roles in elementary classroom teaching, early childhood education and staff development in public and private schools.

Admission to Graduate Standing: Conditionally Classified

University requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Graduate Standing: Classified

A student who meets the admission requirements and the following requirements may be granted classified graduate standing upon the development of an approved study plan: a basic teaching credential or equivalent experiences, an approved major (minimum of 24 units upper division or graduate), a 2.5 grade-point average on previous academic and related work, satisfactory interview, references and an autobiography. Credit will be given for previous postbaccalaureate studies when possible. Otherwise well-qualified students may be admitted with limited subject or grade deficiencies, but these deficiencies must be removed. Grade-point average deficiencies may be removed by a demonstration of compentency in the graduate program.

Study Plan

Units

The adviser-approved 30 units (minimum) on the study plan will include the following:

Core course work 9
- Ed-TE 511 Survey of Educational Research (3)
- Ed-TE 529 Graduate Studies: Learning Theory for Classroom Use (3)
- Ed-TE 536 Curriculum Theory and Development (3)

Course work in concentration 12

One of the following:
- Ed-TE 441 Reading in Early Childhood (3)
- Ed-TE 501 Philosophy of Education (3)
- Ed-TE 509 Construction, Analysis and Interpretation of Educational Tests (3)
- Ed-RP 510 Research Design and Analysis (3)
- Ed-TE 526 Differentiated Staffing in Public Schools (3)

Ed-TE 527 Graduate Seminar in Developmental Psychology (3)
Ed-TE 538 Graduate Studies in Elementary Education: Early Childhood Education (3)
Ed-TE 539 Clinical Supervision (3)
Three of the following:
Ed-TE 530 Graduate Studies in Elementary Education: Second Languages (3)
Ed-TE 531 Graduate Studies in Elementary Education: Language Arts (3)
Ed-TE 532 Graduate Studies in Elementary Education: Mathematics (3)
Ed-TE 533 Graduate Studies in Elementary Education: Science (3)
Ed-TE 534 Graduate Studies in Elementary Education: Social Studies (3)
Ed-TE 535 Graduate Studies in Elementary Education: Reading (3)
Ed-TE 537 Graduate Studies: Current Issues and Problems (3)
Electives selected with approval of the adviser 6
Culminating experience 3
One of the following:
Ed-TE 594 Research Seminar (3) *or*
Ed-TE 597 Graduate Project (3) *or*
Ed-TE 598 Thesis (3) .....
Total 30

In addition to completing a minimum of 21 of the 30 units in residence at Cal State Fullerton, students must enroll for a minimum of six units in each of two consecutive semesters.

For further information, consult the graduate program adviser.

HIGHER EDUCATION

Offered by the Division of Teacher Education

This program is designed to help qualified instructors in postsecondary education advance their knowledge and skills related to the development, implementation and evaluation of postsecondary instructional programs. It focuses on the study of instructional strategies, curriculum development, program development and evaluation relating to particular content and students.

Admission to Graduate Standing: Conditionally Classified

University requirements include: a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Graduate Standing: Classified

A student who meets the admission requirements may be granted classified graduate standing upon the development of an approved study plan.

Study Plan *Units*
Core course work 9
Ed-TE 511 Survey of Educational Research (3)
Ed-TE 529 Graduate Studies: Learning Theory for Classroom Use (3)
Ed-TE 536 Curriculum Theory and Development (3)
Course work in concentration 15
Ed-TE 509 Construction, Analysis and Interpretation of Educational Tests (3)
Ed-TE 550 Instructional Strategies (4)
Ed-TE 551 Program Evaluation in Education (3)
Ed-TE 599 Independent Graduate Research (3)
Electives 3
Culminating experience 3
Ed-TE 597 Project (3) *or*
Ed-TE 598 Thesis (3) .....
Total 30

For further information, consult the program adviser.

READING

Offered by the Department of Reading

The program is designed to help qualified individuals gain the technical knowledge and scholarship

requisite to becoming reading specialists. This professional program is based on and combined with sound preparation in the liberal arts and sciences. The curriculum proposes an interdiscipilinary approach to the preparation of the professional specialist in reading.

Admission to Graduate Standing: Conditionally Classified

University requirements include: a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures). In addition, an applicant must have an approved major, complete an application to the reading program and confer with the graduate program adviser to discuss the prerequisites for attaining classified standing.

Graduate Standing: Classified

A student who meets the admission requirements and the following requirements may be granted classified graduate standing upon the development of an approved study plan: successful teaching experience or other approved experience; a grade-point average of 2.5 or better in academic and related work; sufficient background in reading; a satisfactory interview; and four references from school administrators, school supervisors or professors.

Study Plan

The final adviser-approved program of course work for the degree must include:

	Units
Core course work	9
Ed-RP 510 Research Design and Analysis (3)	
Ed-TE 536 Curriculum Theory and Development (3)	
Reading 516 Etiology of Reading Difficulties (3)	
Courses for the concentration in reading	17
Reading 507 Current Trends in Secondary and College Reading Programs (3)	
Reading 508 Teaching Reading in Today's Elementary School (3)	
Reading 517 Educational Testing and Reading Instruction (3)	
Reading 581 Analysis of Reading Difficulties (4)	
Reading 584 Linguistics and Reading (4)	
Elective	3
One of the following (or related field):	
Reading 582 Analysis of Reading Practices (3)	
Reading 583 Instructional Development in Reading (3)	
Reading 585 Professional Development in Reading (3)	
Culminating Experience	1
Reading 595 Advanced Studies (includes comprehensive examination) (1) *or* Reading 597 Project (1) or Reading 598 Thesis (1)	—
Total	30

For advisement and further information, consult the program graduate adviser.

SCHOOL ADMINISTRATION

Offered by the Department of Educational Administration

The principal objective of the curriculum is to prepare carefully selected individuals for certain leadership positions in educational administration. The program is designed to help these individuals gain the technical knowledge and scholarship requisite to high achievement in these positions. This professional program is based on and combined with sound preparation in the liberal arts and sciences. The curriculum proposes an interdisciplinary approach to the preparation of the professional specialist in public education. Thus, those who qualify for the degree should have completed course work in such fields as philosophy, public administration, psychology, political science, biology, English, sociology, economics, anthropology or history.

Admission to Graduate Standing: Conditionally Classified

University requirements include: a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures). In addition, an applicant should have a successful teaching experience in an elementary or secondary school, or community college. If such experience is not available, other experience in related fields is a recommended alternative, which must be approved by a graduate adviser before starting the program.

Graduate Standing: Classified

A student who meets the admission requirements and the following requirement, may be granted classified graduate standing upon the development of an approved study plan: at least 2.5 grade-point average in previous academic and related work.

Study Plan

The study plan must include 30 units of committee-approved course work, of which 25 must be at the 500 level. A minimum of 22 units must be in educational administration; five units may be assigned on an interdisciplinary basis from courses related to the needs of individual students. Course requirements include field experience and a project.

No more than nine units of postgraduate work taken prior to classified standing may be applied to a student's master's degree program.

Students concentrating in educational administration will take Educational Administration 503, Foundations for Administrative Leadership, as soon as they identify their interest in this degree. To continue in the program beyond this course, the student must be granted a "letter of admission to the program" and possess an official program evaluation. Students who desire only isolated courses from the program are normally denied admission to such courses. The adviser-approved 30 units (minimum) on the study plan will include:

	Units
Core course work	9
Ed-Adm 503 Foundations for Administrative Leadership (3)	
Ed-Adm 505 Supervision of Curriculum (3)	
Ed-RP 510 Research Design and Analysis (3)	
Courses for the concentration in school administration	21
All of the following (no grade below C):	
Educational Administration 561 Governance, Systems, School and Community (3)	
Educational Administration 563 School Personnel Administration (2)	
Educational Administration 564 Seminar in School Law (2)	
Educational Administration 565 Seminar in School Finance, Business Administration and Buildings (2)	
Educational Administration 588 Organization Theory and Management (3)	
Educational Administration 567A,B Fieldwork and Project (2,2)	
One of the following:	
Educational Administration 566 Elementary Administration and Supervision (3)	
Educational Administration 586 Secondary Administration and Supervision (3)	
Adviser-approved electives (2)	
Total	30

For advisement and further information, consult the graduate program adviser.

SPECIAL EDUCATION

Offered by the Department of Special Education

The program is designed to: (1) help individuals interpret and implement research related to exceptional children, conduct appropriate research in the classroom and/or clinical setting, become skilled in their abilities to diagnose with educational instruments and observation techniques, interpret the results of diagnostic procedures, prescribe and implement educational strategies; (2) provide teachers with competencies to enable them to fulfill the roles of supervising teachers and demonstration teachers in special classes; (3) prepare individuals for positions of leadership in the field of special education; and (4) prepare individuals to pursue graduate work toward the doctoral degree.

Study Plan

The adviser approved 30 units on the study plan will include the following:	*Units*
Core course work	10
Ed-RP 510 Research Design and Analysis (3)	
Sp Ed 575 Exceptionality: Theory, Philosophy and Research (4)	
Sp Ed 528 Resource Specialist Seminar: Curriculum, Assessment and Management (3)	

Concentration	6
Sp Ed 463 Exceptionality: Cognitive-Affective Characteristics (3) *or*	
Sp Ed 464 Exceptionality: Physical-Sensory Characteristics (3)	
Sp Ed 574 Exceptionality: Non-Educational Implications (3)	
Electives	11–13
If Sp Ed 371 has not been taken as a prerequisite, Sp Ed 463 and 464 will be required with the additional course counted as three of the units of electives.	
Culminating experience	1–3
Sp Ed 595 Advanced Studies (3) *or*	
Sp Ed 597 Project (3) *or*	
Sp Ed 598 Thesis	
Total	30

For advisement and further information, consult the department graduate adviser.

Admission to Graduate Standing: Conditionally Classified

Requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.75 in the last 60 semester units attempted (see section on admission of graduates for complete statement and procedures regarding admission).

Graduate Standing: Classified

A student who meets the admission requirements and the following requirements, may be granted classified graduate standing upon the development of an approved study plan: (1) a grade-point average of 2.75 or better in all previous academic and related work; (2) an approved major; (3) completion of Sp Ed 371, Exceptional Individual, or alternative work on study plan as shown below under "Electives"; (4) satisfactory interview and autobiography.

TESOL (Teaching English to Speakers of Other Languages)

Offered by the Division of Teacher Education in conjunction with the Department of Foreign Languages and Literatures

This program is multi-disciplinary, involving study in the fields of English, linguistics, language acquisition, anthropology and professional education in order to provide the candidate with the requisite knowledge for success as an ESL teacher, resource specialist or program coordinator.

Admission to Graduate Standing: Conditionally Classified

University requirements include: a baccalaureate degree from an accredited institution with a grade-point average of at least 2.5 in the last 60 semester units attempted (see the university catalog on admission of graduates, for complete statement and procedures). In addition, the candidate must have a 3.0 grade-point average in the major.

Prerequisites

1. Two years of one foreign language, *or* one year each of two foreign languages with an average 3.0 GPA;
2. English 301 and 303 with a grade of B or better;
3. One of the following: English 300, 311, 312, 321, 322 or an equivalent survey of English or American literature with a grade of B or better;
4. Linguistics 406 with a grade of B or better;
5. Oral and written proficiency in English to be determined at time of application.

Graduate Standing: Classified

All course prerequisites must be completed before applying for classified standing. The student must apply for classified standing prior to the completion of nine units of study plan course work by developing an official study plan in consultation with the adviser. A student becomes classified following review and approval of the study plan by the Dean of Graduate Studies.

Study Plan

The study plan includes 30 units of committee-approved course work, of which 15 must be at the 500 level. In addition to the 15 units of core courses, 12 units of electives are required, three units of which must be at the 500 level. The culminating experience is the Foreign Language Ed 596 Practicum which includes a comprehensive examination.

The adviser-approved 30 units on the study plan will include the following: *Units*

Core course work 15

Foreign Language Ed 443A (3) Principles of Teaching English to Speakers of Other Languages (emphasis on aural/oral language)
Foreign Language Ed 443B (3) Principles of Teaching English to Speakers of Other Languages (emphasis on reading and written language)
Ed-RP 510 (3) Research Design and Analysis
Foreign Language Ed 527 (3) Theory of Bilingual Language Acquisition

Electives 12

No more than six units may be at the 300 level and three must be at the 500 level. Selection is made from at least three of the following four categories in consultation with the adviser:

1. Culture
   American Studies 301 The American Character
   American Studies 345 The American Dream
   Anthropology 360 Contemporary American Culture
   Anthropology/Linguistics 300 Language and Culture
   Anthropology 450 Culture and Education
2. Linguistics
   French, German or Spanish 466 Introduction to French, German or Spanish Linguistics
   Foreign Language Ed 468 TESOL Contrastive Analysis
   Spanish 468 Spanish-English Contrastive Analysis
   Linguistics 351 Introduction to Linguistic Phonetics and Phonology
   Linguistics 411 Bilingualism
   Linguistics 505 Phonological Analysis
   Linguistics 507 Grammatical Analysis
   Linguistics 508 Theories of Syntax
   Linguistics 570 Special Topics in Linguistics (subject to adviser's approval of topics)
   Psychology/Linguistics 417 Psycholinguistics
3. English and Speech Communication
   English/Linguistics 305 The English Language in America
   English 490 History of the English Language
   400 or 500 level English or American Literature Course
   Speech Communication 320 Intercultural Communication
4. Professional Education
   Ed-TE 454 Bilingual Educa;tion
   Ed-TE 509 Construction, Analysis, and Interpretation of Education Tests
   Ed-TE 529 Graduate Studies: Learning Theory for Classroom Use
   Ed-TE 530 Graduate Studies in Elementary Education: Second Languages
   Ed-TE 542 Current Issues and Problems in Bilingual-Bicultural Education
   Psychology 311 Educational Psychology
   Reading 480 The Teaching of Reading
   Reading 581 Analysis of Reading Difficulties
   Reading 584 Linguistics and Reading

Culminating experience 3

Foreign Language Ed 596 (3) Practicum, part of which entails a written and oral comprehensive examination.

Total 30

For further information, contact the TESOL graduate program adviser in the Department of Foreign Languages and Literatures.

ENGINEERING—MASTER OF SCIENCE

Offered by the Division of Engineering in the School of Mathematics, Science and Engineering

The program is designed to increase the depth of understanding of the student within one of the areas of concentration (electrical engineering, mechanical engineering, civil engineering and engineering mechanics, systems engineering, or engineering science) without restricting the possibility of broadening the education outside of the immediate area.

Admission Procedure

The procedural steps for admission are as follows:

1. Apply for admission to the university in graduate standing.
2. Declare the objective to be a Master of Science in Engineering at the time of admission.
3. If Step 2 is not accomplished at the time of admission, then the student must file a graduate application for a Change of Academic Objective form before being admitted to the Division of Engineering.
4. Official transcripts from all colleges and universities attended must be supplied. Transcripts must be sent directly from the institutions to the Cal State Fullerton Office of Admissions when the request is received from Cal State Fullerton.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate from an engineering program accredited by the Accreditation Board for Engineering and Technology, and a grade-point average of at least 2.5 in the last 60 semester units attempted, with some concentrations requiring a GPA greater than 2.5 in the last 60 semester units.

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirement, may be granted classified graduate standing upon the development of an approved study plan: satisfactory course work in the engineering field. However, students may be considered with grade deficiencies. Any deficiencies must be made up, and will require six or more units of adviser-approved courses with at least a 3.0 average in addition to those required for the degree. In addition, a committee of the engineering faculty will evaluate each student's record for specific course deficiencies in the engineering field. Making suitable allowance for actual engineering experience, the committee will require each student, prior to classified standing in the program, to make up such deficiencies as the committee determines. A student who does not have a B.S. in Engineering from an Accreditation Board for Engineering and Technology accredited program or who has a B.S. degree outside of engineering may need to make up these deficiencies.

Achievement of classified graduate standing includes the following:

1. Completion of all required work which may have been specified to make up deficiencies.
2. Before completing nine units at Cal State Fullerton toward the degree, a student will make an appointment with the adviser at the Office of the Division of Engineering and request classified standing.
3. Preparation, in consultation with the adviser, of a graduate study plan which must be approved.

Advancement to Candidacy

Advancement to candidacy is attained by requesting a graduation check and receiving subsequent approval of the graduate program adviser on Form B, mailed by the Office of Graduate Affairs. Students no longer need to make a separate request for candidacy.

Graduation

Final achievement of the Master of Science in Engineering requires:

1. Having been admitted to candidacy.
2. Filing a request for check on completion of requirements during registration and prior to the appropriate deadline.
3. Having completed 30 units of approved work with an overall GPA of not less than 3.0.
4. Completing satisfactorily a final comprehensive examination.
5. Receiving approval of the faculty of the Division of Engineering and the Office of Graduate Affairs.

The Program for the Master of Science in Engineering

Qualification for the Master of Science in Engineering requires the following:

1. Completion of a minimum of 30 units of adviser-approved upper-division or graduate-level work including:

A. Engineering 403 and a minimum of three units of approved mathematics-oriented upper division or graduate courses (certain engineering courses fulfill this requirement),
B. not less than one-half of the units required for the degree shall be in approved graduate (500-level) courses.
C. A minimum of 15 units in a specific area of concentration.

2. An overall GPA of 3.0.
3. Satisfactory completion of a final oral comprehensive examination.

At the discretion of the Master of Science degree candidate, subject to the approval of the adviser, the student may make an oral defense of a project or thesis (3–6 units) instead of taking the comprehensive oral examination. In order to make this substitution the student must either prepare a thesis, subject to the university's requirements, or submit a formal report of the project for review and approval by a committee of two or three faculty members. Guidelines for formal reports are available in the Engineering office. A typed draft of the project report or thesis must be submitted to the reviewing committee for approval at least eight weeks prior to the last day of classes, and a final version submitted for final approval at least four weeks prior to the last day of the semester in which the oral defense is scheduled.

A candidate for the Master of Science in Engineering may pursue one of five options currently offered by the Division of Engineering: civil engineering and engineering mechanics; electrical engineering; mechanical engineering; systems engineering; engineering science.

A student is required to select a minimum of 15 units within these options. These 15 units may be 400-level and 500-level courses. The 500-level courses are listed below:

Civil Engineering and Engineering Mechanics

EG-CE 509, Theory of Plates and Shells (3); EG-CE 510, The Finite Element Method (3); EG-CE 517 Theory of Elasticity (3); EG-CE 529, Open Channel Hydraulics (3); EG-ME 530, Advanced Strength of Materials (3); EG-CE 532, Earthquake Engineering (3); EG-CE 533, Matrix Analysis of Structures (3); EG-CE 544A, Advanced Foundation Engineering (3); EG-CE 548, Soil Dynamics and Foundation Engineering (3); EG-CE 549, Theory of Elastic Stability (3); EG-CE 563, Design of Prestressed Concrete Structures (3); EG-EE 592, Advanced Engineering Analysis (3).

Electrical Engineering

EG-EE 502A, Electromagnetics (3); EG-EE 503, Information Theory and Coding (3); EG-EE 504A, Linear Network Synthesis (3); EG-EE 504B, Linear Active Networks (3); EG-EE 505, Control System Design (3); EG-EE 506, Advanced Digital Computer Systems (3); EG-EE 507, Detection Theory (3); EG-EE 513, Optimal Control Systems (3); EG-EE 514, Introduction to Optical Electronics (3); EG-EE 518A and B, Digital Signal Processing I and II (3); EG-EE 523A, Solid State Devices and Integrated Circuits (3); EG-EE 523B, Large Scale Integrated Circuits (3); EG-EE 527, Fault Diagnosis and Finite Automata (3); EG-EE 531, Phase-Locked and Frequency Feedback Systems (3); EG-ME 540, Computer Applications in Engineering Design (3); EG-EE 558, Microprocessors and System Applications (3); EG-EE 572, Seminar: Topics in Control Theory (3); EG-EE 580, Analysis of Random Signals (3); EG-EE 581, Theory of Linear Systems (3); EG-EE 582, Linear Estimation Theory (3); EG-EE 592, Advanced Engineering Analysis (3).

Mechanical Engineering

EG-ME 508, Advanced Inviscid Fluid Flow (3); EG-ME 511, Advanced Mechanical Vibrations (3); EG-ME 512, Advanced Mechanical Design (3); EG-ME 516, Advanced Radiation Heat Transfer (3); EG-ME 520, Advanced Viscous Fluid Flow (3); EG-ME 526, Advanced Convective Heat Transfer (3); EG-ME 530, Advanced Strength of Materials (3); EG-ME 536, Advanced Conduction Heat Transfer (3); EG-ME 540, Computer Applications in Engineering Design (3); EG-EE 592, Advanced Engineering Analysis (3).

Systems Engineering

Students selecting the systems engineering option will be required to include the following four courses in their study plans:

EG-EE 581, Theory of Linear Systems (3); EG-EE 582, Linear Estimation Theory (3); EG-EE 585, Optimization Techniques in Systems Engineering (3); EG-EE 587, Operational Analysis Techniques System Engineering (3).

The remainder of the systems engineering study plan will include other engineering courses with an emphasis in a particular field such as information systems, control theory, computer systems, or civil or mechanical engineering applications. Students possessing a Bachelor of Science in Engineering may elect to include up to nine units from approved subjects offered by the School of Business Administration and Economics as a part of their study plan.

Engineering Science

The program in engineering science is to be selected by the student and adviser and submitted for approval to a committee of the Division of Engineering (supplemented, if appropriate, by members of the science and mathematics faculty). The courses selected are to meet a special and specific engineering science objective of the student, such as engineering physics.

In addition to those courses offered in the specific options, the following courses apply to any option, though they are not necessarily required:

EG-CE, EG-EE or EG-ME 597, Project (1–6); EG-CE, EG-EE or EG-ME 598, Thesis (1–6); EG-CE, EG-EE or EG-ME 599, Independent Graduate Research (1–3).

For further information, consult the Division of Engineering.

ENGLISH—MASTER OF ARTS

Offered by the Department of English and Comparative Literature in the School of Humanities and Social Sciences

The Master of Arts in English offers students the opportunity to achieve a multifaceted understanding of literature and language as well as to study particular areas of their own interest. Such areas include literature, the teaching of English, linguistics and creative writing. The degree is useful to those teaching in high schools or community colleges, to those seeking careers in writing and publishing, and to those intending to take further graduate work.

Admission to Graduate Standing: Conditionally Classified

University requirements include a bachelor's degree from an accredited institution and a minimum GPA of 2.5 in the last 60 semester units attempted.

Graduate Standing: Classified

Classified graduate standing requires a bachelor's degree in English from an accredited institution with at least a 3.0 grade-point average in the major courses *provided that a minimum of 24 units of upper-division course work is included;* or if the student holds a bachelor's degree in another major, 24 units of upper-division course work in English with at least a 3.0 grade-point average must have been completed. If the student lacks the prerequisite number of English courses, they must be made up before beginning work in the master's degree program, with at least a 3.0 in such makeup course work. In the event that the student's GPA in prerequisite English courses is less than 3.0, six to nine units of probationary, adviser-approved course work may be assigned. If the GPA in these probationary courses is 3.0 or better, the courses may be applied to the M.A. program and the student may be classified. Courses taken to remove quantitative deficiencies may not be applied to the M.A. program.

A student is required to have two years of one foreign language at the college or university level, an approved foreign language examination, or six units of study in comparative literature. If taken as graduate work, these six units may be applied to the master's degree under "units in subjects related to English."

A study plan must be developed and approved for admission to classified graduate standing.

Study Plan	*Units*
Minimum units in English courses restricted to graduate students (500 series)	18
(with the permission of the graduate adviser, 3 of these 18 units may be taken in a comparative literature graduate seminar)	
Units in specified upper-division courses in English	6–12
Maximum units in subjects related to English	6
Total units required	30

To complete the degree requirements the student must either undertake a project or take a written comprehensive examination. Failed parts of the examination may be retaken only once.

Note: The student is strongly advised to take the steps necessary for admission to the program before registering for the first graduate courses. Part of the admission process is to confer with the graduate adviser, who will analyze prerequisites and designate those courses which will apply to the degree program. Courses taken by a conditionally classified student do not necessarily apply toward a degree. At the time the student achieves classified standing, no more than nine units of postgraduate coursework may be applied to the master's degree program. For further information, consult the Department of English and Comparative Literature.

ENVIRONMENTAL STUDIES—MASTER OF SCIENCE

An interdisciplinary program offered by the School of Mathematics, Science and Engineering

Environmental studies is an interdisciplinary program in human interaction with the environment—cultural as well as natural. The courses integrate knowledge and methods from several disciplines, all of which independently study special aspects of this area. The program treats the social and cultural aspects of human attempts to exploit, modify and achieve balance with the environment. Students take courses involving ecological changes, pollution, technological solutions, economics, balanced land use, and politics. Students select from emphases in environmental sciences, environmental policy and planning, and environmental education.

Admission to Graduate Standing: Conditionally Classified

University requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted. In addition, three letters of recommendation are required.

If the student has no background in ecology or quantitative techniques, the student should make up the deficit by taking approved courses offered in the other appropriate departments in consultation with an adviser.

Graduate Standing: Classified

After completion of no more than nine semester units of adviser-approved course work and the development of an approved study plan, the student may apply for classified standing.

Study Plan

The M.S. in Environmental Studies requires the completion of 36 units of adviser-approved course work with a GPA of 3.0 or better. The student's committee should be comprised of three members, representing three different fields, with one being a member of the Environmental Studies Council.

1. Environmental Studies Core (6 units)
   510 Environmental Evaluation and Protection (3)
   520 Social Environmental Analysis (3)
   A student who can demonstrate competency in either core course subject matter may, with the permission of the graduate program adviser, substitute a suitable three-unit course from another department program.
2. Interdisciplinary Core (9 units)
   440 Principles of Environmental Studies (3)
   595 Seminar in Environmental Studies (3)
   596 Internship in Environmental Studies (3) *or*
   597 Project (3)
3. Thesis 598 (3 units)
4. Individualized Course Work (18 units)
   Graduate level courses (minimum 6 units) and additional courses with the approval of the faculty adviser.

For further information, consult the graduate program adviser.

FRENCH—MASTER OF ARTS

Offered by the Department of Foreign Languages and Literatures in the School of Humanities and Social Sciences

This program is designed to develop the teacher-scholar, and those who may go on to doctoral studies or who plan to work in international business and diplomatic relations. Course work includes a six-unit core which presents a linguistic analysis of phonology, morphology, and style and a second group of courses dealing with French literature. All courses are conducted in French.

Admission to Graduate Standing: Conditionally Classified

University requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted. See the section of this catalog on admission of graduates for the complete statement and procedures.

Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements may be granted classified graduate standing upon the development of an approved study plan: a major in French consisting of 24 units (or equivalent) of upper-division studies with above-average scholarship. (A candidate presenting a B.A. which has fewer than 24 upper division units in the language, or is otherwise inadequate, will be required to take additional courses to build a full undergraduate major before beginning the graduate program.) The student must also demonstrate proficiency in English, either by examination or a three-unit upper division course in English grammar.

Adaptations of certain admission requirements may be made for promising foreign students.

Study Plan

The study plan consists of 30 units of graduate study (at least 15 in 500-level courses), distributed as follows:

1. Core courses (6 units)
   French 500 (Graduate Seminar: Advanced Structure and Style) or substitute
   French 520 (Old French) or 530 (Graduate Seminar: Historical Linguistics)
2. Graduate seminars in literature (9 units)
3. Other electives (15 units)

May be chosen from either 400- or 500-level French courses. A maximum of six units may be taken, with approval of the adviser, in a related field, at the 300, 400 or 500 level.

With the approval of the graduate committee, a student may substitute a thesis for some of the units required in Section 3.

A bibliographic project is to be completed prior to classification. A reading project is to be completed prior to advancement to candidacy. A reading list of literary works to be required for the final examination must be covered by all students. Final evaluation is by a comprehensive written and oral examination, including fluency in the French language. The candidate may, with the approval of the graduate committee, repeat the examination, but once only, within two years.

For further information, consult the Department of Foreign Languages and Literatures.

GEOGRAPHY—MASTER OF ARTS

Offered by the Department of Geography in the School of Humanities and Social Sciences

This program provides advanced study in geographic concepts, techniques and methods. Through seminars and research it develops analytical and interpretive abilities, and provides requisite background for employment in teaching, government and business.

Prerequisites

Students must meet the university requirements for admission to conditionally classified graduate standing with the declared objective of this degree. See the section of this catalog on admission of graduates.

Classified standing requires an approved study plan and an undergraduate major in geography or a related field that demonstrates competency in each of geography's four subfields: physical, human, regional and technical. Competency is normally demonstrated by satisfactory completion (average 3.0 GPA) of 18 units or more at the upper-division or graduate level. Course or grade deficiencies may be made up with consent of the departmental graduate committee. After completion of all prerequisites and removal of deficiencies, if any, the student is reviewed for classification into the program by the departmental graduate committee.

Before completing nine units of graduate work, each student must select a field of specialization and an appropriate adviser as chair of the *student's* graduate committee. In consultation with the student, this adviser will supervise formulation and completion of the student's study plan. Two other faculty members will also serve on the *student's* graduate committee.

Study Plan

Requirements for the completion of the degree program include:

1. 30 units of approved upper division and graduate-level work distributed as follows:

	Units
Geography graduate seminars	6–9
Elective upper division or graduate work in geography (for which up to 6 units may	

be taken in related fields) including techniques	15
Geography 590 Seminar in Geographic Research	3
Geography 598 Thesis or 597 Project (two projects)	3
Geography 599 Independent Graduate Research	0–3
Total	30

2. A technique requirement equivalent to nine units must be completed prior to advancement to candidacy. Three units are prerequisite to classified standing. If the remaining six units were not taken as upper division undergraduate work, they may be included in the study plan.

Each candidate will prepare a thesis or two projects. Before registering for Geography 598 or 597, a candidate must have had a thesis or project topic approved by the *student's* graduate committee. The candidate must submit a written research proposal which indicates knowledge of the appropriate literature and of techniques of data collection and analysis. The committee will then discuss the proposal with the candidate, to determine competence to pursue the topic as outlined, and assure that both the student and the committee understand what is to be done. Defense of the finished thesis at a formal meeting of the student's graduate committee is required. Students interested in foreign area studies are expected to demonstrate proficiency in a suitable foreign language.

Advancement to candidacy is attained by completing the technique and study plan requirements and requesting a graduation check.

For further details or advisement communicate with the graduate program adviser, Department of Geography.

GERMAN—MASTER OF ARTS

Offered by the Department of Foreign Languages and Literatures in the School of Humanities and Social Sciences

This program is designed to develop the teacher-scholar, and those who plan to pursue more advanced studies in the field or to use the language in a profession. It meets the needs of students who plan a career in international relations, international business or the foreign service. Emphasis lies on the development of perfection in linguistic skills, and a deepened understanding of literary and cultural tradition. All courses are taught in German.

Admission to Graduate Standing: Conditionally Classified

University requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted. See the section of this catalog on admission of graduates for the complete statement and procedures.

Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be granted classified graduate standing upon the development of an approved study plan: a major in German consisting of 24 units (or equivalent) of upper-division studies with above-average scholarship. (A candidate presenting a B.A. which has fewer than 24 upper-division units in the language, or is otherwise inadequate, normally will be required to take additional courses to build a full undergraduate major before beginning the graduate program.) The student must also demonstrate proficiency in English, either by examination or a three-unit upper-division course in English grammar. Adaptations of certain admission requirements may be made for promising foreign students.

Study Plan

Each study plan requires 30 units of graduate study (at least 15 in 500-level courses), distributed as follows:

1. Core courses (6 units)
   German 500 (Graduate Seminar: Advanced Structure and Style) or substitute
   German 530 (Graduate Seminar: Historical Linguistics) or substitute
2. Graduate seminars in literature (9-12 units)
3. Other electives (12-15 units)
   May be chosen from either 400- or 500-level German courses. Up to six units may be taken, with approval of the graduate committee, in a related field.

With the approval of the graduate committee, a student may substitute a thesis for some of the units required in Section 3. A reading list must be covered by all students. Final evaluation is by a

comprehensive written and oral examination, including fluency in the German language. The candidate may, with the approval of the graduate committee, repeat the examination, but once only, within two years.

For further information, consult the Department of Foreign Languages and Literatures.

HISTORY—MASTER OF ARTS

Offered by the Department of History in the School of Humanities and Social Sciences

The Master of Arts degree in history is designed to provide a course of study for those whose interests are in teaching, business, government service and the professions as well as for personal enrichment. It offers all the basic requirements for those who intend to pursue a doctoral degree upon the completion of their study at California State University, Fullerton.

Prerequisites

Applicants to the Master's program must first fulfill all requirements for admission to graduate standing in the University. A student must have a baccalaureate degree from an accredited institution with a grade-point average of at least 2.5 in the last 60 semester units. After fulfilling the university requirements, the applicant's records are sent to the History Department's graduate coordinator for evaluation. Students with deficiencies will be considered for admission only after they have completed courses approved by the coordinator.

Study Plan

Each student determines his or her study plan with the graduate coordinator before commencing course work. Two plans are offered: Plan I, in which one specific field of interest is developed, requiring a written thesis or project (with an oral examination taken before the final draft): Plan II, in which written comprehensive examinations in two fields of either (1) American, (2) European or (3) Latin American-Asian-African areas must be taken.

The total units required for the master's degree is 30. All students must enroll in the following three unit courses:

History 502 History and Historians
History 503 Theory and History
History 504 Historical Research
History 520, 560 or 570 Seminar

In addition, six more units of 500-level course work must be taken, making a total of 18. The remaining 12 units may be taken in upper division courses, only one of which must be taken in history. It is necessary to have a B average in these courses for them to count toward the degree.

Before candidacy can be met, there is also a cultural understanding or research skill requirement. This may be fulfilled in a variety of ways: (1) an examination on reading ability in a foreign language, (2) completion of 12 units of comparative studies taken in another department appropriate to the student's program, (3) an examination or courses taken in statistics, or (4) courses and a completed interview in oral history and certification by the oral history director.

For further information call the Department of History.

LINGUISTICS—MASTER OF ARTS

Offered by the Department of Linguistics in the School of Humanities and Social Sciences

The M.A. in Linguistics includes the study of the systems of human communication, reinforced by undergraduate study in linguistics and allied areas, such as foreign languages, English language, anthropology, speech communication and related areas in psychology and philosophy.

The core courses are in descriptive, historical and applied linguistics. The relationship between linguistics and other disciplines and the application of the techniques, findings, and insights of that science to such activities as language teaching are treated in interdisciplinary courses and seminars.

The graduate program provides training for practice and research in the several areas of linguistic studies and for careers in the communication sciences and allied disciplines.

Admission to Graduate Standing: Conditionally Classified

An applicant for this program must meet the following requirements: a baccalaureate from an accredited institution and a grade-point average of at least 3.0 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be granted classified standing upon the development of an approved study plan: a major in linguistics consisting of 24 upper-division semester credit hours, or equivalent, in the field, with grades testifying to above-average scholarship. Those having degrees with other related majors may be admitted if they have completed the following courses or their equivalents. These prerequisites may be fulfilled concurrently with graduate course work in the program.

Linguistics 300 Language and Culture (3)
Linguistics 351 Introduction to Linguistic Phonetics and Phonology (3)
Linguistics 406 Descriptive Linguistics (3)
Linguistics 430 Historical Linguistics (3)

Knowledge of one foreign language is required (equivalent of FL 317 course). Students without course work in a foreign language may demonstrate proficiency by a score of average or better on the MLA-ETS Proficiency Examination for Advanced Students. Work toward fulfillment of this requirement may be taken concurrently with graduate work in linguistics.

Modifications of certain prerequisite requirements may be permitted in exceptional circumstances.

Study Plan Course Requirements *Units*

Course work in descriptive and historical linguistics..... 13
Linguistics 501, Research Methods and Bibliography (1); Linguistics 505, Phonological Analysis (3); Linguistics 507, Grammatical Analysis (3); Linguistics 508, Theories of Syntax (3); Linguistics 530, Historical Linguistics (3).

Course work selected from any one of the following six areas of subspecialization, including other courses in the university with the approval of the adviser..... 9

Applied Linguistics

English 303, The Structure of Modern English (3); English 570, Graduate Seminar: Language Studies (3); Foreign Languages Education 468, TESOL Constrastive Analysis (3); French 466, Introduction to French Linguistics (3); French 599, Independent Graduate Research (1–3); German 466, Introduction to German Linguistics (3); German 599, Independent Graduate Research (1–3); Linguistics 305, The English Language in America (3); Linguistics 403, Speech and Language Development (3); Linguistics 416, Anthropological Linguistics (3); Linguistics 412, Sociolinguistics (3); Linguistics 443A or B, Principles of Teaching English to Speakers of Other Languages (3); Linguistics 580, Special Topics in Linguistics (3); Linguistics 596, Internship in Applied Linguistics (3); Linguistics 599, Independent Graduate Research (1–3); Spanish 466, Introduction to Spanish Linguistics (3); Spanish 467, Dialectology: Current Trends in Modern Spanish (3); Spanish 468, Spanish-English Contrastive Analysis (3); Spanish 599, Independent Graduate Research (1–3).

Anthropological Linguistics

Anthropology 599, Independent Graduate Research (1–3); Foreign Languages Education 468, TESOL Constrastive Analysis (3); Linguistics 416, Anthropological Linguistics (3); Linguistics 412, Sociolinguistics (3); Linguistics 580, Special Topics in Linguistics (3); Linguistics 592, Field Methods (3); Linguistics 599, Independent Graduate Research (1–3).

Analysis of Specific Language Structures

Foreign Languages Education 468, TESOL Constrastive Analysis (3); French 466, Introduction to French Linguistics (3); German 466, Introduction to German Linguistics (3); Spanish 466, Introduction to Spanish Linguistics (3); French 500, Graduate Seminar: Advanced Structure and Style (3); German 500, Graduate Seminar: Advanced Structure and Style (3); Spanish 500, Graduate Seminar: Advanced Structure and Style (3); German 510, Phonology (3); German 530, Historical Linguistics (3); Spanish 530, Historical Linguistics (3); English 580, Graduate Seminar: Language Studies (3); English 599, Independent Graduate Research (1–3); Spanish 599, Independent Graduate Research (1–3); French 599, Independent Graduate Research (1–3); German 599, Independent Graduate Research (1–3); Linguistics 580, Special topics in Linguistics (3); Linguistics 592, Field Methods (3); Linguistics 596, Internship in Applied Linguistics (3); Linguistics 599, Independent Graduate Research (1–3).

Experimental Phonetics

Linguistics 402, Advanced Phonetics (3); Linguistics 599, Independent Graduate Research (1–3); Physics 405, Acoustics (4); Speech Communication 599, Independent Graduate Research (1–3).

Communication and Semantics

Anthropology 599, Independent Graduate Research (1–3); Linguistics 375, Introduction to the Philosophy of Language (3); Linguistics 416, Anthropological Linguistics (3); Linguistics 412, Sociolinguistics (3); Linguistics 417, Psycholinguistics (3); Linguistics 515, Graduate Seminar: Psycholinguistics (3); Linguistics 580, Special Topics in Linguistics (3); Linguistics 599, Independent Graduate Research (1–3); Speech Communication 599, Independent Graduate Research (1–3).

Disorders of Communication

Linguistics 403, Speech/Language Development (3); Linguistics 417, Psycholinguistics (3); Linguistics 515, Graduate Seminar: Psycholinguistics (3); Linguistics 580, Special topics in Linguistics (3); Linguistics 599, Independent Graduate Research (1–3); Speech Communication 441, Dysarticulation and Stuttering, (3); Speech Communication 443, Voice Disorders and Cleft Palate (3); Speech Communication 463, Audiology (3); Speech Communication 599, Independent Graduate Research (1–3)

Course work either in linguistics or a related field	6
Linguistics 597 Project	2
Total	30

A minimum of 15 units in 500-level courses is required. Also, satisfactory completion of written and oral comprehensive examinations will be required at the conclusion of the program.

The examinations may be repeated only once.

For further information, consult the graduate adviser of the Department of Linguistics.

MANAGEMENT SCIENCE—MASTER OF SCIENCE

Offered by the School of Business Administration and Economics

The Master of Science in Management Science program provides the conceptual understanding and technical competence for a career in management science. Emphasis is placed on the use of scientific method to allocate resources so as to maximize profit or minimize cost. Specializations include operations research, management information systems and statistics. These techniques are widely used in both private business and public enterprise. Employment opportunities include positions such as management analyst, data processing manager, statistician, and forecaster.

The M.S. in Management Science program is scheduled especially for students who are employed full time. Courses are offered during the late afternoon and evening.

The curriculum emphasizes mathematical approaches and should appeal to students with undergraduate degrees in business administration, computer science, mathematics, engineering, or science. For students with an undergraduate degree in business administration, the 10-course (30-unit) curriculum may be completed in one year (full time) or 2½ years (part time). In addition to a three-course survey of management science methods, the curriculum includes management science applications, electives, a computer-based management game, and a terminal research project. Students with a bachelor's degree in a field other than business administration must first complete the 10 M.B.A. Foundation Courses (30 units) or equivalent undergraduate courses.

Cal State Fullerton is the only university in Orange County accredited by the *American Assembly of Collegiate Schools of Business.* This assures a rigorous program, a well-qualified faculty, high standards for students, and access to an extensive library system. The qualifications of the M.S. in Management Science faculty include advanced degrees in operations research, statistics and applied mathematics; extensive computer experience; and practical experience in business, industry, and government. Cal State Fullerton is the only campus within The California State University offering an M.S. in Management Science.

Most graduate courses in the School of Business Administration and Economics require "classified SBAE status" and are open only to students with classified standing in the M.S. in Management Science, M.A. in Economics, M.B.A., or M.S. in Taxation programs.

Students meeting the following requirements will be admitted to *postbaccalaureate unclassified* standing:

1. Acceptable bachelor's degree from an institution accredited by a regional accrediting association, or equivalent.
2. Grade-point average of at least 2.5 in the last 60 semester units attempted and in good standing at last college attended.

Note: Postbaccalaureate unclassified students may enroll in undergraduate courses (100 through 400 level) but are generally ineligible for graduate business courses (500 level). Such students may wish to take undergraduate courses which are necessary to meet the requirements for classified standing (see below). Upon completing the requirements, the student may file an "Application for Change of Academic Objective—Graduate" requesting admission to the M.S. in Management Science program. Admission to the university as a postbaccalaureate unclassified student *does not* constitute admission to the M.S. in Management Science program, does not confer priority, nor does it guarantee future admission. Students planning to apply for admission to the M.S. in Management Science program should confer with the graduate adviser in the School of Business Administration and Economics.

Students meeting the following *additional* requirements will be admitted to the M.S. in Management Science program with conditionally classified standing:

3. Combination of grade-point average and score on the Graduate Management Admission Test (GMAT) sufficient to yield a score of at least 950 according to one of the following formulas. Due to limited facilities and resources in the School of Business Administration and Economics, a higher score may be required of all applicants.

A. If overall undergraduate GPA is at least 2.5 and GMAT is at least 450, then score = (GPA × 200) + GMAT.

B. If overall undergraduate GPA is below 2.5 or GMAT is below 450, then score = (GPA × 200) + GMAT − 50.

C. If GPA is based on the last 60 semester units of course work,* then score = (GPA × 200) + GMAT − 100.

Note: Conditionally classified students may take a limited number of graduate courses (500 level) subject to the approval of the graduate adviser of the School of Business Administration and Economics. Students may take whatever courses are necessary to fulfill requirement 4 (below) while enrolled as conditionally classified students. In addition, a maximum of 9 units (three courses) from the M.S. in Management Science curriculum may be taken while in conditionally classified standing.

Students meeting the following additional requirements will be advanced to classified standing. Such students are eligible to take graduate courses for which they are qualified.

4. A bachelor's degree with a major in business administration which meets the requirements stated in this catalog for such degrees. The degree must include calculus and computer programming equivalent to passing Mathematics 135, Business Calculus (3 units) and Management Science 264, Introduction to Computer Programming (2 units). Courses in the major are to be no more than seven years old, and must have at least a 3.0 (B) grade-point average. Courses with grades lower than C must be repeated. *Applicants with a bachelor's degree in a field other than Business Administration* may meet this requirement by passing the courses in calculus and computer programming (above) and also the Foundation Courses within the curriculum of the Master of Business Administration Long Plan (30 units, including Accounting 510, 511; Economics 514, 515; Finance 517; Management 516, 518; Management Science 512, 513 and Marketing 519).
5. Approval of study plan.

Curriculum

The curriculum requires 30 semester units of course work beyond the baccalaureate degree. At least 21 of the 30 units required for the degree must be at the graduate level. A grade-point average of 3.0 (B) is required. Any study plan course in which a D is received must be repeated and must receive at least a C grade regardless of the overall GPA of the student.

---

* All work within any given quarter or semester must be included even though that will result in more than 60 semester units. The units to be included in the last 60 semester units may come only from the following: (1) work taken in postbaccalaureate status during the last seven years toward fulfilling M.S. in Management Science course work requirements; (2) units taken under a prescribed remedial program agreed to by the Associate Dean, School of Business Administration and Economics; (3) units earned prior to the bachelor's degree.

Required Courses (15 units)

Management Science 526 Decision Analysis (3)
Management Science 560 Operations Research (3)
Management Science 576 Business Modeling and Simulation (3)
Business Administration 596 M.B.A. Management Game (3)
Management Science 570 Seminar in Management Science (3) *or*
Management Science 597 Project (3)

Management Science Applications and Electives (15 units required)

Courses to be selected in consultation with, and approved by, the student's adviser from the following:

Applications in Business and Economics (3–6 units)

Accounting 521 Seminar in Administrative Accounting (3)
Economics 502 Advanced Microeconomic Analysis (3)
Finance 523 Seminar in Corporate Financial Management (3)
Management 599 Independent Graduate Research (1–3)
Marketing 525 Seminar in Marketing Problems (3)

Electives (9–12 units)

Courses may be chosen from one or more of the following fields:

Operations Research:

A general approach to decision making based on scientific method.

Management Science 448 Computer Simulation in Business and Economics (3)
Management Science 465 Linear Programming (3)
Management Science 466 Mathematical Programming (3)
Management Science 480 Inventory and Production Analysis in Business and Economics (3)
Management Science 490 Queueing and Other Probability Models in Business and Economics (3)

Management Information Systems:

Computer methods for collecting, analyzing and reporting data to aid in management decision making.

Management Science 404 Analysis of Information Systems (3)
Management Science 408 Data Base Management Systems (3)
Management Science 409 Distributed Data Processing (3)
Management Science 411 Data Processing with Small Computers (3)
Management Science 418 Privacy, Security and Data Processing (3)
Management Science 565 File Management and Information Systems (3)

Statistics:

Collecting, analyzing, and interpreting data.

Management Science 420 Applied Statisical Forecasting (3)
Management Science 422 Surveys and Sample Design and Applications (3)
Management Science 430 Nonparametric Statistics (3)
Management Science 461 Advanced Statistics (3)
Management Science 467 Statistical Quality Control (3)
Management Science 468 Design of Experiments (3)
Management Science 475 Multivariate Analysis (3)

Variable Topic:

Management Science 570 Seminar in Management Science (3)

MATHEMATICS—MASTER OF ARTS

Offered by the Department of Mathematics in the School of Mathematics, Science and Engineering

The M.A. in Mathematics is designed to provide advanced study for students interested in continuing studies for a Ph.D. in mathematics, high school and community college teaching or mathematical analysis in industry.

Prerequisites

An applicant must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in

the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures). In addition, students must have an undergraduate major in mathematics or a combination of previous course work and work experience approved as equivalent by the graduate committee of the Mathematics Department.

A student who meets the requirements for conditionally classified graduate standing may be granted classified graduate standing upon meeting the following requirements: a grade-point average of at least 3.0 in all upper-division mathematics courses; the completion of undergraduate courses equivalent to one semester of linear algebra, one semester of modern algebra and two semesters of advanced calculus; and the development of a study plan approved by an adviser and the graduate committee. Students with subject or grade deficiencies who have been admitted to conditionally classified standing must complete all courses required by the graduate committee with at least a 3.0 average before they will be classified. In addition, students in the secondary schools option should have completed a minimum of one year of full-time teaching in junior high or senior high mathematics.

Study Plan for Students in the Regular Program

For this program a plan of study leading to a Master of Arts in Mathematics may be designed to provide advanced work in the areas of both pure and applied mathematics. A personalized study plan to meet the objectives of each student may be developed within the general framework of the degree requirements.

The program requires a study plan with a minimum of 30 units of courses, planned by the student and the student's adviser, and approved by the graduate committee of the Mathematics Department. At least 16 of these units must be 500-level mathematics courses. No 300-level course work is applicable to the master's degree. For those interested in pure mathematics, each three unit 500-level course must be accompanied by one unit of Math 599, Independent Graduate Research. These 500-level courses should not come from any single area of mathematics. In addition, at least two from the following must be completed:

Math 407 Abstract Algebra
Math 412 Complex Variables
Math 414 Topology
Math 417 Foundations of Geometry
Math 425 Differential Geometry
Math 450 Real Analysis

For those interested in applied mathematics, the Department of Mathematics, in consultation with mathematicians and scientists in the local industrial community, has increased its graduate course offerings in applied mathematics. These courses are specifically intended for individuals who are seeking positions, or who currently hold positions, which involve mathematics or quantitative applications. The subject matter emphasizes modern practical applied mathematics, modeling, problem solving and computation. All classes are scheduled in the evening and can be taken in sequence in two calendar years, summers included.

Study Plan for Students in Option in Mathematics for Secondary Schools

This option, designed for high school mathematics teachers, requires 30 units of graduate study approved by the graduate committee. Sixteen of these units must be 500-level mathematics courses. The following course work must be included: Mathematics 581, 582, and 583, 580 or 584 and four units of 599. Each student will be required to take electives to insure competence in algebra, geometry and analysis.

Comprehensive Examination or Project

Before the department will recommend the awarding of the degree in either the regular program or the option, each student must pass a set of comprehensive examinations (written and/or oral) designed to test competence in appropriate course materials or complete a satisfactory final project (Mathematics 597, 6 units), suitable to the student's background or interests which has been approved by the Graduate Committee and the department chair.

For more detailed information or advisement, communicate with the chair of the Department of Mathematics.

MUSIC—MASTER OF MUSIC, MASTER OF ARTS

Offered by the Department of Music in the School of the Arts

Two graduate degrees in music are offered in the Department of Music: the Master of Music and the Master of Arts. Each degree seeks to serve a special group of graduate students. For those who intend to pursue advanced degrees beyond the master's level, the Master of Music normally leads to the D.M.A. degree, and the Master of Arts to the Ph.D. or the Ed.D.

Admission to Graduate Standing: Conditionally Classified

All applicants admitted into the music program enter initially in conditionally classified graduate standing. University requirements include: a baccalaureate from an accredited institution; a grade-point average of at least 2.5 in the last 60 semester units attempted; and good standing at the last college attended. In addition, each applicant must present a satisfactory entrance audition and submit an acceptable written essay in the area of specialization.

Graduate Standing: Classified

A graduate student may apply for classified graduate standing only upon attainment of the following prerequisites: (a) completion of all requirements for conditionally classified standing as described above; (b) a major in music (or the equivalent of a major; i.e., 29 upper-division units in music) with a minimum grade-point average of 3.0 in the major; and (c) satisfactory completion of Music 500. Introduction to Graduate Study in Music. One objective of Music 500 is the selection of a Departmental Advisory Committee which aids in the preparation of a study plan listing all courses required for completion of the degree. This study plan must receive the approval of the student's advisory committee, the Music Department graduate program adviser and the dean of graduate studies. Opportunity is given the student to remove deficiencies by taking certain prescribed courses, but such courses cannot be applied to the master's degree program.

Special Graduation Requirements

Written comprehensive examinations in music history and music theory are required of all students following achievement of classified graduate standing. In addition, for Option I in music history and literature only, for the Master of Arts, the student must demonstrate reading ability in at least one foreign language, preferably German or French.

MASTER OF MUSIC

The Master of Music provides an avenue of graduate study for the highly creative composer or for the superior performer in a program tailored to each student's demonstrated talent and to each student's professional development. Applicants must have completed either a Bachelor of Music degree in performance or composition or show evidence of equivalent rigorous training. For the entrance audition, applicants in *performance* must demonstrate proficiency equivalent to the 400 level, that level expected of a performance major in the Bachelor of Music program at the time of the senior recital, while *composition* applicants must submit a portfolio of scores for examination by the composition faculty. For admission to the programs in choral or instrumental conducting, applicants must show evidence of substantial conducting course work at the undergraduate level plus practical experience. Further, to audition for entrance into the program, each choral applicant must demonstrate conducting proficiency with a mixed chorus and each instrumental applicant must demonstrate conducting proficiency with a band or orchestra. Under exceptional circumstances, a tape may be substituted for the live audition.

Study Plan

The Master of Music degree program requires a minimum of 30 units of graduate study in music, at least half of which must be in 500-level courses. Music 500, Introduction to Graduate Study in Music, must be taken within the first nine units. At least one recital is required, in addition to a corollary written project. Under certain circumstances, and with departmental approval, a thesis may be substituted for the recital and written project.

MASTER OF ARTS

The Master of Arts provides advanced studies in breadth as well as in an area of specialization, either *music education* or *music history and literature*. The degree is for teachers and supervisors of music and for college teaching careers in music history or music education. For the entrance audition in history and literature, applicants must submit an example of a previously-written research paper on a musical subject, while applicants to the program in music education must submit a 30-minute tape demonstrating their teaching technique in a classroom situation.

Study Plan

The Master of Arts degree program requires a minimum of 30 units of graduate study, no more than nine of which may be outside the field of music and at least half of which must be in 500-level courses in the major.

Two options are offered in this degree program. Option I in history and literature requires reading ability in a foreign language, preferably German or French, prior to advancement to candidacy, a thesis and at least six units of study in a non-music field which is supportive of the major. Option II in music education requires either a thesis or a project, depending upon the nature of the student's graduate research. Ten semester units are common to both options (Music 500, 3 units; Music 361–363, 2 units; Music 371–571, 2 units; and Music 551–556, 3 units). Music 500, Introduction to Graduate Study in Music, must be included within the first nine units taken as a graduate student under both options.

For further details or advisement, consult the Department of Music.

PHYSICAL EDUCATION—MASTER OF SCIENCE

Offered by the Department of Health Education, Physical Education and Recreation in the School of Human Development and Community Service

The program provides advanced study within the broad discipline of physical education and allows students to elect course work, with adviser approval, in physiology of exercise, motor learning, biomechanics, philosophy of human movement, psychology of human movement, sport sociology, physical education and athletic administration, sport and exercise management, elementary physical education, movement programs for children, or adapted physical education.

The Master of Science degree in physical education is intended to meet the needs of students who wish to (1) prepare for admission to doctoral programs; (2) enhance competencies in teaching or athletic administration; and (3) to prepare for a variety of other physical education or sports-related careers.

Admission to Graduate Standing: Conditionally Classified

University requirements include a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, and the following requirements, may be granted classified graduate standing upon development of an approved study plan submitted to the graduate program adviser prior to the completion of nine units:

1. completion of 24 approved upper-division units in physical education;
2. a grade-point average of 3.0 or better, for all upper-division work taken in physical education (Contingency provisions: grade point deficiencies in individual courses in physical education may be met by taking 6–12 hours of approved courses at Cal State Fullerton, and earning a 3.0 GPA in these courses. Such courses, while counted toward the prerequisites, may not be used to fulfill the program requirements.); and
3. three satisfactory letters of recommendation.

Study Plan

The degree study plan normally consists of 30 units of graduate course work with the requirement that a GPA of 3.0 or better be maintained. Course work shall include a minimum of 17–19 units of 500-level physical education courses of which 8–10 units are required and 9 units are selected from a core of advanced knowledge courses. Further work includes 11–13 units of elective courses which may be selected with the adviser's approval from any of the following categories: (1) other 500-level course work in physical education; (2) 400-level course work in physical education approved by the department graduate studies committee; and (3) graduate or upper-division course work from other departments within the university approved by the department graduate studies committee. A thesis or a project and an oral examination at the conclusion of the program are required; a written examination may also be required.

Required (8–10 units)		*Units*
PE 508	Statistical Methods in Physical Education	3
PE 510	Research in Physical Education	3
PE 598	Thesis (4) or 597 Project (2)	2–4

Advanced knowledge courses (9 units)

PE 516	Advanced Study of the Philosophical Perspective of Human Movement	3
PE 551	Advanced Study in Physiology of Exercise	3
PE 554	Advanced Study in Human Motor Behavior	3
PE 580	Advanced Study in Psychological Aspects of Human Movement	3
PE 582	Advanced Study in Sport Sociology	3

Elective courses (11–13 units)

Approved 400/500-level physical education courses.

Approved upper-division and graduate courses from other departments.

Total 30

For further details, consult the graduate program adviser, Department of Health Education, Physical Education and Recreation.

POLITICAL SCIENCE—MASTER OF ARTS

Offered by the Department of Political Science in the School of Humanities and Social Sciences

The degree is designed both to enlarge and deepen the competence of political science students. It is especially planned for the professional improvement and advancement of high school and community college teachers, government employees, and military personnel. It also prepares students for entering a doctoral program in political science or for law school. The M.A. program provides training and preparation for journalists, special librarians, and research staffers and for all people active in civic affairs and political life.

Admission to Graduate Standing: Conditionally Classified

University requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted.

In addition to the university requirements, acceptance into the M.A. in political science program requires a grade-point average of 3.0 in the major field. If the major is not in one of the social sciences, the GPA requirement of 3.0 also applies to upper-division social science courses taken. If a student's GPA does not meet these criteria, the student may appeal to the department's graduate committee for a waiver.

Graduate Standing: Classified

A student admitted to conditionally classified status may apply for classified standing which requires development of an approved study plan prior to completion of nine units. (See general regulations under "Graduate Standing: Classified" and "Study Plan.")

Study Plan

Each candidate for a degree should, in consultation with the graduate adviser, arrange for the appointment of a graduate committee, composed of three faculty members, one of whom will serve as chair; this committee will approve the study plan, conduct the examination(s) and supervise the thesis if the student chooses that option.

As a requirement for admission to classified standing the student, in cooperation with the graduate program adviser, must develop a study plan of 30 units of course work:

		Units
1. 15 units of required seminar work in political science		
A. Scope and Theory of Political Science		
540	Seminar Readings in Political Philosophy	3
541	Seminar in Contemporary Political Theory	3
B. American Politics/Public Affairs		
511	Seminar in American Politics	3
519	State and Local Government, or	3
	509 Administrative Organization and Process, or	
	525 Seminar in Metropolitan Area Government, or	
	528 Seminar in Public Administration and Policy	
C. Cross-National Politics		
530	Seminar in Cross-National Politics	3

Students are required to take a minimum of one seminar each semester until completion of the entire sequence.

2. 15 units of elective course work in political science (adviser-approved 400 and/or 500-level classes). Electives may include (1) 597 Project (3 units), but only

as a replacement for graduate seminars taken as senior undergraduates; (2) 599 Independent Graduate Research (1–3 units), to be taken only after completion of the required 15 units of graduate seminars or concurrently during the final semester of taking the 15 units.

No more than nine units taken prior to classified standing may be applied to a student's study plan. No more than nine units taken at another institution may be transferred, and these must be approved by the adviser, committee and dean of graduate studies.

Research Skills

Each candidate must demonstrate one of the following:

1. Reading knowledge of a foreign language. Students must complete this requirement by passing an examination.
2. Proficiency in quantitative research skills, including data analysis and research design as demonstrated by successful completion of Political Science 407, Quantitative Methods in Political Science, or its equivalent.

Comprehensive Examinations

All students will successfully complete written and oral examinations in Scope and Theory of Political Science, American Politics/Public Affairs and Cross-National Politics. All three sections must be successfully completed or the entire examination must be retaken. The examination has a written and an oral component. A student who does not pass the written portion is ineligible to take the oral test. The examinations may be retaken only once after an initial failure.

For advisement and further information, consult the M.A. in Political Science adviser.

PSYCHOLOGY—MASTER OF ARTS

Offered by the Department of Psychology in the School of Humanities and Social Sciences

The Master of Arts in Psychology broadens knowledge in the major content areas of psychology and develops skills in planning, analyzing and carrying out research. The degree is useful for those intending to do advanced graduate work in psychology, to teach in a community college, or to seek careers in a variety of community positions.

Admission to Graduate Standing: Classified

An applicant who meets the following requirements may be admitted and granted classified graduate standing upon development of an approved study plan: (1) satisfaction of the general prerequisites for graduate work which include a baccalaureate from a regionally accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures); (2) a 2.5 overall grade-point average and a 3.0 average in psychology; (3) a major in psychology or approved equivalent course work including at least one course in psychological statistics, at least one psychology laboratory course, at least two courses in physiological psychology, sensory psychology, perception, learning or cognition, and at least one course in social psychology, personality, developmental psychology, or psychological testing; (4) completion of Psychology 408, History of Psychology, or equivalent, and Psychology 465, Advanced Psychological Statistics, or equivalent, with grades of B or better (alternatively, these courses may be included in the graduate study plan as electives); (5) satisfactory performance in the Aptitude and Advanced Psychology Tests of the Graduate Record Examination; and (6) three satisfactory letters of recommendation. New students are admitted to the M.A. program in fall and spring. Those to be admitted will be selected from among the qualified applicants at the sole discretion of the department's Graduate Studies Committee. *In addition to the university application, a departmental application form, obtainable by mail from the Psychology Department's graduate office, must be completed and returned to that office.*

Admission to Graduate Standing: Conditionally Classified

It may be possible for applicants who have minimal deficiencies in prerequisite requirements, as detailed above, but who are otherwise highly qualified, to be admitted in conditionally classified graduate standing, with provisions made for removal of deficiencies prior to the granting of classified standing. For further information, consult the graduate program adviser.

Study Plan

The Master of Arts in Psychology requires a minimum of 30 units of approved graduate work, including the completion and acceptance by the Psychology Department graduate studies committee of a written thesis.

The student, in consultation with an adviser on the staff of the Psychology Department, shall develop a program of studies which will be submitted to the graduate studies committee of the Department of Psychology for approval.

Course requirements for the M.A. in Psychology:	*Units*
Psychology 501A and 501B Proseminar	3–3
Psychology 510 Experimental Design	3
Psychology 520 Seminar: Experimental Psychology	3
Psychology 521 Seminar: Personality *or* Psychology 522 Seminar: Developmental Psychology *or* Psychology 551 Seminar: Social Psychology	3
Psychology 598 Thesis Research	3 or 6
Elective upper division or graduate courses (up to 6 units may be in related areas outside psychology)	9 or 12
Total	30

Students are expected to complete Psychology 501A and 501B during the first two semesters of graduate work in psychology.

In order to be advanced to candidacy, a student is required to have completed 12 units on the Study Plan with a B average and must have received a grade of B or better in Psychology 408 or equivalent, Psychology 465 or equivalent, Psychology 501A, Psychology 501B, and Psychology 510. An oral defense of the thesis is required at the completion of the student's program.

For further details or advisement, consult the graduate program adviser of the Department of Psychology.

PSYCHOLOGY (Clinical/Community)—MASTER OF SCIENCE

Offered by the Department of Psychology in the School of Humanities and Social Sciences

The Master of Science requires a two-year commitment to full-time course work. It is an applied program in clinical and community psychology providing an introduction to the research literature and experience in selecting, administering, scoring, and interpreting diagnostic tests as well as practical, closely supervised experience in conducting individual and group therapy, including behavior modification procedures. The program provides preparation for paraprofessional or professional work in a variety of mental health settings, as well as for professional rather than academic/traditional clinical Ph.D. programs.

Admission to Graduate Standing: Classified

An applicant who meets the following requirements may be admitted and granted classified graduate standing upon development of an approved study plan: (1) the general prerequisites for graduate work, which include a baccalaureate degree from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures); (2) a major in psychology or 24 approved units in upper division psychology (if the latter option is chosen, the student must have completed one upper division psychology laboratory course, at least two courses in physiological psychology, sensory psychology, perception, learning or cognition, at least one course in social psychology, personality, developmental psychology or psychological testing, one statistics course, and a course in abnormal psychology); (3) a grade-point average of 3.0 in psychology; (4) acceptable performance on the Aptitude Test and Advanced Test of the Graduate Record Examination; and (5) three satisfactory letters of recommendation. Those to be admitted to the program will be selected from among the qualified applicants at the sole discretion of the department's Graduate Studies Committee. Consideration will be given to paid or volunteer clinical job experience. *In addition to the university application, a departmental application form, obtainable by mail from the Psychology Department's graduate office, must be completed and returned to that office.*

Admission to Graduate Standing: Conditionally Classified

It may be possible for applicants who have minimal deficiencies in prerequisite requirements, as detailed above, but who are otherwise highly qualified, to be admitted in conditionally classified graduate standing, with provisions made for removal of deficiencies prior to the granting of classified standing. For further information, consult the graduate program adviser.

Study Plan

	Units
First Year	
Psychology 501A and 501B Proseminar	3–3
Psychology 531 Individual Mental Testing	3
Psychology 542 Proseminar: Clinical Psychology	3
Psychology 544A and 544B Psychodiagnostics	3–3
Psychology 560 Individual Therapy Techniques	3
Second Year	
Psychology 540 Proseminar: Community Psychology	3
Psychology 546 Behavior Therapy	3
Psychology 562 Group, Marital, and Family Therapy	3
Psychology 564 Fieldwork Seminar	3
Psychology 566A and 566B Fieldwork	4–4
Approved elective	3
Total	44

The student must maintain a B average in all course work and must receive a grade of B or better in Psychology 501A and 501B.

It should be noted that successful completion of the course work is not sufficient to permit continuation in the program. In addition, faculty judgment must be satisfied with respect to the student's effectiveness, professional and ethical behavior in dealing with potential clients. Continuation in the program is contingent upon satisfactory performance in all aspects of the program as judged objectively and clinically by the Clinical-Community Committee and the Graduate Studies Committee.

Following satisfactory completion of three semesters' course work (34 units), the student will take a written comprehensive examination. A student is entitled to retake the examination only once.

New students are admitted to the M.S. program in the fall semester only. Call the Psychology Department's graduate office for departmental application forms.

PUBLIC ADMINISTRATION—MASTER OF PUBLIC ADMINISTRATION

Offered by the Department of Political Science in the School of Humanities and Social Sciences

This professional degree is designed to disseminate the knowledge and skills needed for efficient and effective government. The program acquaints the student with the theoretical and practical skills needed to improve the practice of governmental management. It also prepares one to cope with the ethical and moral dimensions of the contemporary policy maker. Career guidance, working experience and placement are important components of the program. It is designed to:

1. Prepare students who wish to enter the field of public administration;
2. Increase the professional competence of those already embarked in public administration careers;
3. Provide academic study for persons who wish to prepare themselves for second careers in public service;
4. Furnish academic study for those wishing to pursue doctoral work; and
5. Provide specialized training in areas such as financial administration, personnel administration, administrative research, planning and criminal justice.

The program is designed to aid the student in acquiring several skills. These include:

1. Written and oral communication for public administration;
2. Public administration research and analysis techniques;
3. Knowledge of organization processes and behavior;
4. An understanding of federal, state and local governmental and administrative systems and processes; and
5. Knowledge of administrative techniques and practices such as personnel testing, program budgeting and management by objectives.

Students may also develop knowledge of various specialized areas of employment such as criminal justice, human services administration, health administration and gerontology.

Admission to Graduate Standing: Conditionally Classified

One may become conditionally classified in the Master of Public Administration if the university requirements for admission are met. These requirements are: a baccalaureate degree from an accredited institution and a grade point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Graduate Standing: Classified

A student who meets the above requirements may become a classified student if the following conditions are met:

1. Completion of a minimum of 12 semester units of undergraduate course work in the social sciences, six semester units of which must have been upper-division level. At least one of the courses must have been in economics. These social science courses, to satisfy this requirement, must have included such curriculum components as: social, political and legal environment; cultural, ethical and social values; levels and institutions of government; human behavior in organizations; concepts and practices of administration; and political processes of government. Upon recommendation of the public administration faculty, suitable practical experience may be substituted for a maximum of six units of the social science requirement.
2. Completion of a one-semester course in basic statistics;
3. Satisfying at least one of the following conditions:
   A. A grade-point average of at least 3.25 in upper-division courses in the undergraduate major;
   B. Scores on the Aptitude Test of the Graduate Record Examination in the upper quarter of those taking the examinations; or
   C. Completion of nine semester units of adviser-approved course work in this program with a grade-point average of at least 3.3; and
4. Approval of a study plan through consultation with the M.P.A. coordinator.

Study Plan

The degree study plan must include a *minimum* of 36 semester units of adviser-approved course work which meets the following requirements:

1. Eighteen units of required core course work in public administration as follows:

		Units
Political Science 521	Seminar in Public Administration Theory	3
Political Science 523	Administrative Research and Analysis	3
Political Science 526	Seminar in Administrative Behavior	3
Political Science 421	Public Finance Administration	3
Political Science 422	Public Personnel Administration	3
One of the following:		
Political Science 519	State and Local Government	
Political Science 525	Seminar in Metropolitan Area Governments	
Political Science 528	Seminar in Public Administration and Policy	3
Total		18

2. Complete minimum of 18 units at the 500 level.
3. No more than nine units from other institutions may be accepted for transfer credit.
4. Three units of credit in the public administration internship for students who do not have adequate public service experience.
5. Candidates for the M.P.A. degree must successfully pass a written comprehensive examination in public administration, but any candidate may, with the approval of the M.P.A. adviser, choose either the project (Political Science 597) or the thesis (Political Science 598) in lieu of the comprehensive examination. Both the project and the thesis earn three units of course work each and include a final oral defense.
6. Normally, no more than nine units of postgraduate course work taken prior to classified standing may be applied to the master's degree program.
7. A course in basic statistics must be taken during the first semester if not previously taken. This course cannot be applied toward the 36 units of course work.
8. Student electives should be planned in accordance with their career objectives and must include at least two courses in one of these areas: public finance, public personnel, or planning.
9. Political Science 509, Administrative Organization and Processes, is required of all students

who have not completed a foundations of public administration course within the last three years.

10. Candidates who enroll in 400-level courses will be required to do additional work beyond that required of undergraduates.

SCIENCE—MASTER OF ARTS IN TEACHING

Offered by the Science Education Program in the School of Mathematics, Science and Engineering

The primary objectives of the Master of Arts in Teaching—Science are to provide advanced studies in science curriculum designs appropriate to the professional responsibilities of science educators; to provide research and seminar opportunities in contemporary issues in science education; and to enable teachers to become more proficient in science disciplines appropriate to their academic teaching assignments.

Admission to Graduate Standing: Conditionally classified

University requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted. For this program the baccalaureate must be in one of the sciences (biology, chemistry, earth sciences, physics) and/or related fields.

Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be granted classified standing upon the development of an approved study plan. Candidates must:

1. be science instructors or curriculum coordinators/supervisors as evidenced by an appropriate credential certifying that they may teach in one of the science disciplines below the collegiate level;
2. declare an area of teaching specialization (the graduate committee for all candidates will include instructors from the academic departments of the student's teaching specialty or emphasis);
3. take a diagnostic examination prior to classification in the declared areas of teaching specialty (the purpose of this examination is to aid advisers in recommending appropriate science course work; if areas of weakness are apparent, then course work as designated by coadvisers will be required prior to taking more advanced course work—such course work will not count toward the 30-unit degree requirement);
4. have adequate science preparation; and
5. have a minimum grade-point average of 2.5 in science prerequisites.

Study Plan

The degree program consists of 30 units of upper-division or graduate course work within the School of Mathematics, Science and Engineering of which at least half must be 500 level, completed with a grade-point average of 3.0 or better.

1. 15 units will be in the basic sciences, in upper-division and graduate courses. At least nine units will be taken in one of the following: biology, chemistry, computer science, earth science or physics.
2. 15 units will be in science education with the following requirements:
   Core courses
   550 Theoretical Designs in Science Education (3 units)
   552 Review of Research in Science Education (3 units)
   554 Issues in Science Education (3 units)
   Thesis or other science education course work
   598 Thesis (6 units) *or*
   599 Independent Graduate Research (3 units) and other appropriate science education course work (3 units) as approved by the advisory committee.

For further information and advisement, consult the graduate program adviser or coordinator of the Science Education Program.

SOCIAL SCIENCES—MASTER OF ARTS

An interdisciplinary program offered by the School of Humanities and Social Sciences

This degree provides for individualized programs of graduate study which emphasize the examination of human behavior and its relation to social institutions. These programs have the common

purpose of exposing students to diverse methodologies, establishing the relationship between disciplines, and providing the student with the opportunity to explore a selected area from a variety of intellectual perspectives.

The social sciences include the following related fields: Afro-ethnic studies, American studies, anthropology, Chicano studies, criminal justice, economics, geography, history, philosophy, political science, psychology and sociology.

This degree is designed to provide interdisciplinary insights and tools for those interested in (1) pursuing careers in government and business; (2) elementary, secondary, or community college teaching in the area of social studies or any of the social sciences; (3) a graduate program to complement the undergraduate degree in social science, liberal studies, or any single department major within the social sciences; or (4) a custom-tailored program of advanced study in the liberal arts.

Prerequisites

A student may be admitted to the program in conditionally classified graduate standing with a baccalaureate from an accredited institution and a minimum grade-point average of 2.5 in the last 60 semester units attempted. Classified standing requires an undergraduate major or its equivalent in one of the social sciences, a GPA of 3.0 in upper division social sciences courses, and substantial work in the social science fields selected for study.* The graduate adviser will determine qualifications in these areas and may require 3-12 units of course work beyond the study plan to compensate for deficiencies. A study plan must be developed and approved for admission to classified graduate standing.

Study Plan

Of the 30 units of adviser-approved courses on the study plan, at least 18 must be in appropriate work at the 500-level. Course work includes a required social sciences core (6 units), a multidisciplinary core taken in at least two social science fields (18-21 units), and a project or thesis (3-6 units). Courses in the multidisciplinary core are selected in consultation with the graduate program adviser and faculty in their areas of interest and should correspond to the focus in the thesis or project. At least two fields should be represented in the 500-level courses. The study plan would be either:

	Plan I *Units*	*Plan II* *Units*
1. Social Sciences core (6)		
500 Social Science Methods (3) *or* 502 Role of the Social Science Professional (3)	3	3
501 Social Science Methods (3)	3	3
2. Multidisciplinary core (18–21)		
Minimum 500-level units	9	9
Maximum upper-division units	9	12
3. Project or Thesis (3–6)		
597 Project *or* 598 Thesis	6	3
Every student will prepare a project or thesis on a topic approved by the graduate program adviser and the student's committee. Both the project and the thesis must reflect the student's interdisciplinary effort.		
Total	30	30

Competency in a foreign language or in specific techniques (e.g., film-making) may be required in addition to the study plan in cases where the student's committee and the graduate program adviser consider such competencies necessary for the particular focus. Such requirements will be stated no later than the time the student is advanced to classified standing.

This degree program relates to various career options in the social sciences. Work experience in these careers may be gained under an internship course, in one of the social sciences, and the project may be tailored to a career option. For further information, consult the graduate program adviser.

SOCIOLOGY—MASTER OF ARTS

Offered by the Department of Sociology in the School of Humanities and Social Sciences

The Sociology Department accepts graduate students in the fall and spring semesters of each academic year. The program for this degree provides advanced study in general sociology. It offers

* The prerequisite for "substantial work" will vary among departments and according to the specific courses within some departments. Lack of substantial work in one or more fields will not ordinarily bar a student from admission but will result in one or more additional courses being required before the student may be classified.

an opportunity to broaden one's knowledge of society, to strengthen skills of sociological analysis and to do research in depth in an area of particular interest. It may be used as preparation for study toward the doctorate in sociology, for community college teaching, participation in research or for a variety of positions in business and industry, corrections, the community or government.

The program is composed of a 15-unit core sequence which all students must complete and 15 units of electives to be chosen by the graduate student in consultation with the graduate adviser. It is designed to facilitate close contact between students and faculty, to encourage students to accept a role in the selection of course offerings, and to participate in all areas of departmental decision making.

Prerequisites

Students must meet the university requirements for admission to graduate standing. Please see the section of this catalog on admission of graduate students.

In order to be accepted as a conditionally classified sociology major, students must have a GPA of 2.75 or better in the most recent 60 units of college work and a GPA of 3.0 (B) or better for all work in sociology. A minimum of 18 upper-division units in sociology is required, including the following courses or their equivalents:

Sociology 301 Theories of Social Behavior
Sociology 302 Social Research Methods (design, collecting data) *and*
Sociology 303 Statistics for the Social Sciences (elementary statistics) *or*
Sociology 331X Social Research Methods (combines materials covered in 302, 303)

Courses in methods, statistics and theory must have been completed within the last five years prior to application.

Students will be accepted as conditionally classified sociology majors with either course or GPA deficiencies. Deficiencies must be corrected, however, within one year of admission to the program.

Students will be classified upon the fulfillment of the above prerequisites, and after an approved study plan has been developed, in consultation with the Graduate Committee.

Study Plan

The study plan for the degree must be approved by the student's adviser and must include the following:

	Units
1. Core Course Sequence	15
A. Sociology 502A The Research Process (3)	
B. Sociology 501 Seminar: Selected Topics in Societal Structure and Process (3) (Sociology 502A and 581 are designed to be taken during first semester of graduate studies)	
C. Sociology 502B The Research Process (3)	
D. Sociology 581 Advanced Theories of Social Behavior (3)	
E. Sociology 598 Thesis (3)	
2. Electives	15
Electives to be chosen from the following categories consistent with each student's goals, subject to approval by the graduate adviser and limited by the maximum number of units set for each category.	
A. Graduate sociology seminars (500-level courses) ..... maximum of 15 units	
B. Upper division sociology courses (400-level courses)..... maximum of 6 units	
C. Sociology 596, Community College Symposium (3) or Sociology 597, Agency Placement (3) ..... maximum of 3 units	
D. Sociology 599 Independent Studies (1–3) ..... maximum of 6 units	

For further information, consult the graduate program adviser.

SPANISH—MASTER OF ARTS

Offered by the Department of Foreign Languages and Literatures in the School of Humanities and Social Sciences

This program is designed to develop the teacher-scholar, and those who will pursue more advanced studies in the field or use the language in a profession. It meets the needs of students interested in

executive, managerial or secretarial positions where knowledge of Spanish language and Hispanic culture is essential, of students who plan a career in international relations or the consular or foreign service, and of those preparing for further professional and graduate work. Emphasis lies on the development of a deepened understanding of language, literature and cultural tradition against the background of a core of applied and historical linguistics required of all students.

Admission to Graduate Standing: Conditionally Classified

University requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted. See the section of this catalog on admission of graduates for the complete statement and procedures.

Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be granted classified graduate standing upon the development of an approved study plan: a major in Spanish consisting of 24 units (or equivalent) of upper-division studies with above-average scholarship. (A candidate presenting a B.A. which has fewer than 24 upper-division units in the language, or is otherwise inadequate, will be required to take additional courses to build a full undergraduate major before beginning the graduate program.) The student must also demonstrate proficiency in English, either by examination or a three-unit upper-division course in English grammar. Adaptations of certain admission requirements may be made for promising foreign students.

Study Plan

The study plan consists of 30 units of graduate study (at least 15 in 500-level courses), distributed as follows:

Spanish: Standard Plan

1. Core courses (6 units)
   Spanish 500 (Graduate Seminar: Advanced Structure and Style) or substitute
   Spanish 530 (Graduate Seminar: Historical Linguistics)
2. Graduate seminars in literature: Peninsular and Spanish-American must be included (9 units)
3. Other electives (15 units)
   May be chosen from either 400- or 500-level Spanish courses. Up to six units may be taken, with approval of the adviser, in a related field.

Spanish: Bilingual Studies emphasis

1. Core courses (6 units)
   Spanish 500 (Graduate Seminar: Advanced Structure and Style) or substitute
   Foreign Language Education 527 (Theory of Bilingual Language Acquisition)
2. Graduate seminars (9 units)
   Any 500-level course in Peninsular literature
   Any 500-level course in Spanish-American literature
   Any 500-level culture course
3. Electives (15 units; 3 may be in approved related fields)
   Linguistics (3 units)
   Literature (3 units)
   Culture (6 units)
   Other (3 units)

With the approval of the graduate committee, a student may substitute a thesis for some of the units required under Section 3. A reading list must be covered by all students. Final evaluation is by a comprehensive written and oral examination, including fluency in the Spanish language. The candidate may, with the approval of the graduate committee, repeat the examination, but once only, within two years.

For further information, consult the Department of Foreign Languages and Literatures.

SPEECH COMMUNICATION—MASTER OF ARTS
COMMUNICATIVE DISORDERS—MASTER OF ARTS

Offered by the Department of Speech Communication in the School of Humanities and Social Sciences

The Master of Arts in Speech Communication is designed for students who have exceptional interest in and aptitude for study in the area of communication theory and process. The objectives of the

degree include the following: to improve the student's academic and professional competence, to prepare the student for advanced graduate work toward the doctoral degree, to develop the student's research capabilities, to contribute to improvement in teaching or clinical skills, and to increase the student's knowledge in the specializations appropriate to the particular profession. The student is expected to demonstrate a high degree of intellectual competence and scholarly discipline, to evaluate critically, and to demonstrate mastery of the field of concentration.

The Master of Arts in Communicative Disorders (speech-language pathology and audiology), accredited by the Education and Training Board of the American Boards of Examiners in Speech Pathology and Audiology since 1969, is designed: (1) to provide students with graduate, professional level studies covering the broad field of communicative disorders; (2) to provide students with opportunities to observe, learn and serve communicatively impaired clients within a wide range of clinical facilities, both on-campus and off-campus; and (3) to train students to assess, diagnose and prescribe therapy plans, and to function as therapists for selected types and populations of the communicatively impaired.

Admission to Graduate Standing: Conditionally Classified

Applicants must meet the university requirements for admission in conditionally classified graduate standing: a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted.

In addition, the following factors will be taken into consideration by the Graduate Committee in determining who shall be admitted to the program:

1. Background studies in area of major (speech communication or communicative disorders) or allied fields.
2. Grade-point average.
3. Letters of recommendation (preferably on department forms).
4. Professional objectives as presented in a student letter of intent.

Graduate Standing: Classified

A student who meets the requirements for conditionally classified graduate standing, as well as the following requirements, may be granted classified graduate standing upon the development of an approved study plan:

1. Enrollment in Speech Communication 500, Seminar in Speech Research, is required within the first nine units of graduate work included on the study plan.
2. Completion of the study plan with 30 units of studies approved by an adviser and the Department Graduate Committee.

Study Plan

The study plan will include the following: (1) 30 units of studies approved by the Department Graduate Committee; (2) each program will have at least 15 units in one of the major areas; (3) a core of six to nine units (Speech Communication 500 Seminar in Speech Research, taken very early in the program, and 596 Directed Graduate Research *or* 598 Thesis); (4) each candidate for an M.A. degree in Speech Communication must take at least three seminars at the 500 level; and (5) adviser-approved supporting courses in related fields where appropriate. A written comprehensive examination is required of all candidates.

For further information, consult the Department of Speech Communication.

TAXATION—MASTER OF SCIENCE

Offered by the Department of Accounting in the School of Business Administration and Economics

The Master of Science in Taxation program provides the conceptual understanding and technical competence for a career in taxation. Employment opportunities include the tax departments of CPA and law firms, as well as corporations and government tax agencies. For those already employed in this field, the M.S. in Taxation program should meet the continuing education requirements of professional associations and licensing boards.

The M.S. in Taxation program is *scheduled* especially for students who are employed full time. Courses are offered during the late afternoon and evening. Most students enroll on a part-time basis, taking two courses (6 units) per semester.

The *curriculum* is designed for students with an undergraduate degree in business administration. The 10 courses (30 units) may be completed in one year (full time) or 2½ years (part time). In addition to six courses in the field of taxation, there are three electives and a terminal, research-project course.

Cal State Fullerton is the only university in Orange County *accredited* by the *American Assembly of Collegiate Schools of Business.* This assures a rigorous program, a well qualified faculty, high standards for students, and access to an extensive library system. The qualifications of the M.S. in Taxation faculty include advanced degrees in taxation, accounting, and law; practical tax experience, and professional standing as CPA's and attorneys.

Most *graduate courses* in the School of Business Administration and Economics require "classified SBAE status" and are open only to students with classified standing in the M.S. in Taxation, M.B.A., M.S. in Management Science, or M.A. in Economics programs.

Admission

Students meeting the following requirements will be admitted to *postbaccalaureate unclassified* standing:

1. Acceptable bachelor's degree from an institution accredited by a regional accrediting association, or equivalent.
2. Grade-point average of at least 2.5 in the last 60 semester units attempted and in good standing at last college attended.

Note: Postbaccalaureate unclassified students may enroll in undergraduate courses (100 thru 400 level) but are generally ineligible for graduate business courses (500 level). Such students may wish to take undergraduate courses which are necessary to meet the requirements for classified standing (see below). Upon completing the requirements, the student may file an "Application for Change of Academic Objective—Graduate" requesting admission to the M.S. in Taxation program. Admission to the university as a postbaccalaureate unclassified student *does not* constitute admission to the M.S. in Taxation program, does not confer priority, nor does it guarantee future admission. Students planning to apply for admission to the M.S. in Taxation program should confer with the graduate adviser in the School of Business Administration and Economics.

Students meeting the following *additional* requirements will be admitted to the M.S. in Taxation program with conditionally classified standing:

3. Combination of grade-point average and score on the Graduate Management Admission Test (GMAT) sufficient to yield a score of at least 950 according to one of the following formulas. Due to limited facilities and resources in the School of Business Administration and Economics, a higher score may be required of all applicants.
   A. If overall undergraduate GPA is at least 2.5 and GMAT is at least 450, then score = (GPA $\times$ 200) + GMAT.
   B. If overall undergraduate GPA is below 2.5 or GMAT is below 450, then score = (GPA $\times$ 200) + GMAT − 50.
   C. If GPA is based on the last 60 semester units of course work* then score = (GPA $\times$ 200) + GMAT − 100.

Note: To be admitted as conditionally classified students, applicants must be within three courses (or 10 units) of meeting the requirements for classified standing (see below). Such courses must be completed within the first 12 months of study. Students who do not do so will not be allowed to continue in the program. Conditionally classified students may take a limited number of graduate courses (500 level) subject to the approval of the graduate adviser of the School of Business Administration and Economics. *Applicants with a bachelor's degree in a field other than business administration* (or whose deficiency is greater than three courses) should apply for the Master of Business Administration (Long Plan) program. Upon completion of the M.B.A. Foundation courses, an application for a change of objective may be filed for transfer to the M.S. in Taxation program.

Students meeting the following *additional* requirements will be advanced to classified standing. Such students are eligible to take graduate courses for which they are qualified.

4. A bachelor's degree with a major in business administration which meets the requirements stated in this catalog for such degrees, and Accounting 308, Federal Income Tax (or an equivalent course or work experience). The degree must include calculus and computer

*All work within any given quarter or semester must be included even though that will result in more than 60 semester units. The units to be included in the last 60 semester units may come only from the following: (1) work taken in postbaccalaureate status during the last seven years toward fulfilling M.S. in Taxation course work requirements; (2) units taken under a prescribed remedial program agreed to by the associate dean, School of Business Administration and Economics; (3) units earned prior to the bachelor's degree.

programming equivalent to passing Mathematics 135 Business Calculus (3 units) and Management Science 264, Introduction to Computer Programming (2 units). Courses in the major are to be no more than seven years old, and must have at least a 3.0 (B) grade-point average. Courses with grades lower than C must be repeated.

5. Approval of study plan.

Curriculum

The curriculum requires 30 semester units of course work beyond the baccalaureate degree. At least 21 of the 30 units required for the degree must be at the graduate level. A grade-point average of 3.0 (B) is required. Any study plan course in which a D is received must be repeated and must receive at least a C grade regardless of the overall GPA of the student.

Required Tax Course

Accounting 470 Tax Research, Practice and Procedures (3)

Electives in Taxation and Related Fields

Five courses (15 units) to be selected in consultation with, and approved by, the student's adviser. Available courses include but are not limited to:

Accounting 408 Problems in Taxation (3)
Accounting 508 Seminar in Tax Planning (3)
Accounting 572 Seminar in Taxation of Corporations and Shareholders (3)
Accounting 573 Seminar in Taxation of Property Transactions (3)
Accounting 574 Seminar in Taxation of International Business Operations (3)
Accounting 575 Seminar in Estate, Gift and Inheritance Taxes and Estate Planning (3)
Accounting 576 Seminar in State and Local Taxation (3)
Accounting 577 Seminar in Taxation of Employee Compensation (3)
Accounting 578 Seminar in Taxation of Partnerships (3)

Other Electives

Courses are to be selected in consultation with, and approved by, the student's adviser.

One course (3 units) in either economics or political science, *and* two courses (6 units) in either business or non-business fields.

Terminal Research Project

Accounting 597 Project (3)

THEATRE ARTS—MASTER OF ARTS

Offered by the Department of Theatre in the School of the Arts

The Master of Arts in Theatre Arts provides a program of coordinated graduate studies built on undergraduate preparation; incentive for intellectual growth reflected in teaching and professional recognition; and a sound basis for continued graduate study in theatre. The student is expected to demonstrate a high degree of intellectual and creative competence and to demonstrate mastery of one of the areas of emphasis in theatre: (1) acting and directing, (2) dance, (3) dramatic literature and criticism, (4) oral interpretation, (5) playwriting, (6) television, (7) theatre for children, (8) theatre history; (9) technical theatre.

Admission to Graduate Standing: Conditionally Classified

University requirements include a baccalaureate from an accredited institution and a grade-point average of at least 2.5 in the last 60 semester units attempted (see section of this catalog on admission of graduates for complete statement and procedures).

Graduate Standing: Classified

A student who meets the admission requirements and the following requirements may be granted classified graduate standing upon the development of an approved study plan: an appropriate undergraduate major in theatre, with a grade-point average of 3.0 in all upper-division work in the major, or at least 24 units of appropriate upper-division work in theatre, with a GPA of 3.0; Theatre 477A, Senior Seminar in Critical Techniques, or in the case of transfer students, its equivalent; satisfactory completion of the Graduate Record Examination Aptitude Test; and, an oral interview. Upon recommendation of the student's graduate committee, additional prerequisites, including auditions for the M.A. concentrations in acting and dance, may be required prior to classification and the approval of the area of emphasis.

Study Plan

The study plan will include at least 30 units of adviser-approved graduate studies, 15 units of which must be 500-level courses. Each program will have 24 units in theatre, including a core of nine units (Theatre 500, Introduction to Graduate Study—which must be taken in the first semester of graduate study; Theatre 501, Advanced Theatre Theory; Theatre 597, Project, or Theatre 598, Thesis) and six units of adviser-approved supporting courses in related fields, either in other departments or within the Theatre Department. Before the degree is granted, each student will pass oral and written examinations. Students will be permitted to take the written examination twice.

For further information, consult the Department of Theatre.

THEATRE ARTS (Technical Theatre and Design)—MASTER OF FINE ARTS

Offered by the Department of Theatre in the School of the Arts

This degree is for students who wish professionally oriented education and training in design/technical theatre. It is the objective of the department to educate and train highly skilled, motivated individuals for careers in professional theatre (including television and film) or for careers as artist-teachers in college or university theatre. Only those who demonstrate an exceptional talent, a high degree of motivation, and a deep commitment to their education and training will be admitted into the program. The highest academic and creative standards will be demanded throughout the program. A positive attitude and a rigid sense of theatre discipline are essential for success in the program.

The degree requires 60 units of approved course work. Average length of time to complete the program is two years.

Admission to Graduate Standing: Classified

Prerequisites for admission to the program and granting of classified standing are:

1. B.A., B.F.A. or M.A. from an accredited college or university with a major in theatre; or a degree in a related field and extensive work in technical theatre.
2. Completion of an oral interview and satisfactory review of the student's portfolio.
3. Acceptance by the faculty.
4. Minimum GPA of 3.0 in all upper-division undergraduate work in theatre. A minimum GPA of 2.75 for the last half of the undergraduate program is also required.
5. Completion of any additional prerequisites which may be required by the student's individual committee prior to classification.
6. Selection of a graduate adviser and committee. Total committee membership should be three or four faculty members, including the adviser.
7. Submission of a formal M.F.A. study program approved by the individual committee, the department graduate adviser and the dean of graduate studies.
8. Satisfactory completion of the Graduate Record Examination Aptitude Test.

Admission to Graduate Standing: Conditionally Classified

Students who do not meet certain prerequisites may be considered for admission in conditionally classified graduate standing. Consult the graduate program adviser.

M.F.A. Project

The M.F.A. program shall be culminated by two creative projects which, by their nature, are of sufficient challenge and complexity to be accepted as worthy completion of the two-year period of study. These projects, which shall be comparable to a professional undertaking, are determined by the individual committee and shall be design assignments for major productions. Each project shall be reviewed by the individual committee within two weeks after completion. If accepted, the student shall submit a project book on one of these assignments within a specified time.

Study Plan

Students should concentrate their activities in two of the following four technical theatre areas during their two year course of study: scene design, costume-design-makeup, lighting-sound, and technical production.

*Course Requirements**

	Units
Take all of the following:	
Theatre 477A Senior Seminar in Critical Techniques (3)	
Theatre 500 Introduction to Graduate Study (3)	
Theatre 550 Production Planning in Theatre Arts (3)	9
Take one of the following:	
Theatre 501 Seminar: Advanced Theatre Theory (3)	
Theatre 503 Seminar: Theatre for Children (3)	3
Take two of the following:	
Theatre 566 Graduate Seminar: Stagecraft (3)	
Theatre 577 Graduate Seminar: Costuming (3)	
Theatre 578 Graduate Seminar: Scene Design (3)	
Theatre 586 Graduate Seminar: Lighting (3)	6
Take the following each semester:	
Theatre 588 Design and Technical Theatre (6)	24
Choose 12 adviser-approved units from technical courses in theatre, art or engineering	12
Complete a creative project in two of the four technical areas:	
Theatre 597 Project (3)	6
	60

GRADUATE REGULATIONS

The regulations contained herein are in addition to other policies and procedures applying to both undergraduates and graduates which may be found in the preceding section of this catalog and the class schedule. Also, individual schools, divisions and departments may have established particular rules governing programs offered.

Since all policies and procedures are subject to change, by appropriate authority, students should consult class schedules and other official announcements for possible revision of policies and procedures stated herein.

Admission

Application Procedures—Graduate Students

All applicants for any type of postbaccalaureate or graduate standing (e.g., master's degree applicants, those seeking credentials, and those interested in taking courses for personal or professional growth) must file a complete application within the appropriate filing period. *Second baccalaureate degree candidates should apply as undergraduate degree applicants and need not complete form B.* A complete application for postbaccalaureate or graduate standing includes all of the forms and fees described in the application booklet, including the supplementary graduate admissions application. Applicants who completed undergraduate degree requirements and graduated the preceding term are also required to complete and submit an application and the nonrefundable application fee. Since applicants for postbaccalaureate and graduate programs may be limited to the choice of a single campus on each application, redirection to alternative campuses or later changes of campus choice will be minimal. In the event that an applicant wishes to be assured of initial consideration by more than one campus, it is necessary to submit a separate application (including fee) to each.

Applications may be obtained from the Office of Admissions and Records or the Graduate Studies Office of any California State University campus. Instructions for completing the application forms are included in the material supplied. Since some programs require the completion of an additional form as part of the application process, students should inquire concerning this possibililty at the office of the academic unit offering the particular program.

Declaration of Objective

The "objective" is the specific program the student wishes to enter. The particular degree (e.g., M.A.) should be shown in the application, as well as the major (including code number) for a degree, selected from the list provided in the application materials. When enrollment constraints permit, applicants who do not wish a degree or credential may be admitted in postbaccalaureate standing: unclassified. The objective will be "none" and the major should be shown as "undeclared." This may be appropriate for students taking classes for personal enrichment, and other reasons, but does not assure access to particular classes. If, following admission, it is necessary to change the objective, a request may be filed in the Office of Admissions and Records.

* Based on a student's previous undergraduate or professional experience, substitutions or revisions in the study plan might be appropriate.

Admission Categories and Impacted Programs; Application Filing Periods; and Space Reservations

Concerning the above, consult the section of this catalog under "Admission to the University."

Transcripts

When an applicant for graduate standing, with a master's degree objective, or a master's degree and credential objective, receives notice of a space reservation, as above, requests should be submitted to *all* of the institutions of higher learning in which previously registered, requesting that *two official* transcripts from each institution be sent to:

Office of Admissions and Records
California State University, Fullerton
Fullerton, California 92634

One copy of each transcript will be forwarded to the academic unit offering the degree program specified by the student as the objective and the other will be retained for use by both the Admissions and Records Office and the Office of Graduate Affairs.

Students who receive their baccalaureate degree at Cal State Fullerton and continuing graduate students who change their declared objective subsequent to admission must obtain whatever additional transcripts are needed to provide two complete sets, but do not need to request Cal State Fullerton transcripts.

Applicants for a credential program only must submit two copies of transcripts of all college or university attendance.

Postbaccalaureate applicants with *no* degree or credential objective must submit a transcript from the college or university where the baccalaureate was earned. Further, one transcript from other institutions attended is required as necessary so that Cal State Fullerton has a complete record of the last 60 semester units attempted prior to enrollment at Fullerton.

All transcripts must be received directly from the issuing institutions and become official records of the university; such transcripts therefore cannot be returned or reissued. Transcripts which include course work from other than the issuing institution are not sufficient evidence of course work taken elsewhere. Foreign language transcripts must be accompanied by certified English translations.

Students should also have available a complete set of personal transcripts whenever seeking advisement.

Tests

The Graduate Record Examination (GRE), or another test, may be required for conditionally classified admission, or subsequently for the granting of classified standing. Consult the specific program descriptions.

Note: Students should be aware that the GRE tests, the Graduate Management Admission Test, and certain others, are nationally administered and given only a few times a year on specified dates. A current list of these dates is available in the Testing Office, the Office of Graduate Affairs and the academic areas offering degree programs which require the tests. The student must make written application for the tests on a form available at the above offices, which must be submitted to the testing service office by the applicable deadline. Since test results are measured against those of students who normally take the tests in their senior year, taking the tests should not be deferred.

Notification of Admission

Following the procedures as outlined in the foregoing, including a review of the student's eligibility by the Admissions Office and the academic unit offering the particular program, the student will be notified by the Admissions Office concerning admission with conditionally classified graduate standing. Only a written notice *from the Admissions Office* is valid proof of admission. For admission to classified graduate standing, see "Advisement," below, and "Classified Standing," under "General Requirements for the Master's Degree."

Advisement

A prospective student who would like some indication concerning eligibility for graduate standing (conditionally classified or classified) prior to application, should write to or arrange, well in advance, an appointment with the appropriate graduate program adviser in the academic unit offering the degree program (names and locations available in the Office of Graduate Affairs). *The student should bring or send adequate background material, including unofficial transcripts, in order that the adviser may be able to make a preliminary evaluation of prerequisites, to determine*

additional course work needed to remove deficiencies, and to give other advice concerning any other requirements of a particular program. The kind of counsel an adviser can give at this point is necessarily tentative and cannot be construed as granting official admission to a program or establishing an official study plan.

After admission and upon application for classified standing, recommendaton by the designated graduate program adviser, and development of an approved study plan, a student may be granted classified standing prior to the first registration or during the first semester of registration. To accomplish this, the student should arrange a conference with the graduate program adviser. The first and, if feasible, both of the following processes will be accomplished:

a. Evaluation of the student's prerequisites and assignment of courses required, if any, to remove deficiencies. Generally a student must have the equivalent of a Cal State Fullerton undergraduate major in the intended field before achieving classified standing in a master's degree program. Most programs require a specified undergraduate grade-point average in major and/or all course work as well. If the student's undergraduate GPA is below standard, courses may be prescribed, in which the student must earn a B average before being classified. Course work undertaken to satisfy quantitative or qualitative deficiencies normally cannot be applied toward a master's degree. Provisions for the student's fulfilling certain other requirements, if any, such as foreign language competence, will be made.

b. Development of a study plan of course work and other requirements leading to the master's degree. The student and the adviser will develop a study plan listing courses or types of courses to be taken.

The above processes may be accomplished in one meeting if the student need make up no deficiencies or if the amount of prerequisite work is so limited that it may be completed during the first semester. If deficiencies are extensive but remediable they must be removed through successful completion of assigned course work, after which, in another meeting, a study plan may be developed. If the student's deficiencies, in test results or course work, are such that classified graduate standing may not be achieved, the appropriate graduate committee will consider the situation and make recommendation to the dean of graduate studies concerning retention in graduate standing. The student will be notified of the decision.

See also statement on "Advisers and Committees" under "General Requirements for the Master's Degree," and the program descriptions.

Limitation on Preclassification Course Work

No more than nine units of postgraduate work taken at this institution prior to classified standing will be applied to a student's master's degree study plan. Any acceptable transfer work is excluded from the nine units permitted. Students who receive postgraduate credit for courses taken during their final semester as a senior may accumulate as many as 12 units.

Admission Requirements—Graduate Students
Graduate Standing: Conditionally Classified

For admission to graduate degree curricula, in conditionally classified graduate standing, an applicant must: (a) hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association (e.g., Western Association of Schools and Colleges for California) or have completed equivalent academic preparation as determined by an appropriate campus authority; (b) have attained a grade-point average of at least 2.5 (on a scale in which A equals 4) in the last 60 semester (90 quarter) units attempted; (c) have been in good standing at the last college attended; and (d) meet any additional requirements of the particular program including a favorable recommendation from the academic unit. Consult program descriptions.

An applicant who has deficiencies in prerequisite preparation which in the opinion of the appropriate campus authority can be met by specified additional preparation, including qualifying examinations, may be considered for admission with conditionally classified graduate standing.

Graduate Standing: Classified

A student who is eligible for admission in conditionally classified standing, as above, may subsequently be granted classified standing in an authorized graduate degree curriculum of the campus if the graduate student satisfactorily meets the professional, personal, scholastic, or other standards of the graduate degree curriculum, including qualifying examinations, as the appropriate campus authority may prescribe. Consult the program descriptions for requirements, which include development and approval of a study plan. Only those applicants who show promise of success and fitness

will be admitted to graduate degree curricula, and *only those who continue to demonstrate a satisfactory level of scholastic competence and fitness shall be eligible to proceed in such curricula.*

Admission From Nonaccredited Schools

An applicant who is a graduate of a nonaccredited school must apply for admission as an undergraduate to complete requirements for a bachelor's degree from this institution. However, once admitted, a student in this category who gives evidence of unusual promise and superior background may petition for graduate standing as conditionally classified. If the petition is granted, the student may then proceed in the graduate program. For further information, contact the Office of Graduate Affairs.

Admission of Graduate Students From Other Countries

Consult the preceding section of this catalog, under "Admission to the University."

General Requirements for the Master's Degree

To be granted the master's degree, a student must have been classified, advanced to candidacy, and completed a satisfactory pattern of study in an approved field. Requirements which apply to all programs follow. *For specific requirements of particular programs, see the program descriptions in this catalog.*

Each student's program for a master's degree (including eligibility, classified standing, candidacy, and award of the degree) must be approved by the graduate program adviser, the graduate committee, and the dean of graduate studies.

University Writing Requirement

Students working toward a master's degree are required to demonstrate writing ability commensurate with the baccalaureate degree. This requirement should be met within the first nine units of graduate work by successfully completing one of the following:

1. An upper-division writing requirement at any CSU campus
2. An equivalent upper-division writing requirement at another university. Such equivalence must be certified by the department or program responsible for the student's academic work.
3. Cal State Fullerton Examination in Writing Proficiency
4. An upper-division or graduate-level course that is certified as meeting the writing requirement and is approved by the department or program responsible for the student's academic work. The grade received must be a C or better.

Departments and programs may, at their discretion and with approval of the Graduate Education Committee, establish additional writing requirements for their graduate students. For further information, students should consult their program adviser or the Office of Graduate Affairs.

Study Plan

General requirements for the master's degree study plan include:

1. A minimum of 30 approved semester units, or more, as determined by the particular program.
2. A minimum of 21 semester units in residence (transfer and Cal State Fullerton extension or intersession course work are not considered to be in residence; a combined maximum of six units of extension and intersession course work may be used as part of the minimum of 30 units).
3. All transfer work equivalent to Fullerton graduate work and acceptable by the institution where taken for credit toward a comparable degree.
4. Upper-division and graduate-level courses only (note limitation on 300-level courses in course numbering code description).
5. Not less than one-half of the total units in graduate (500-level) courses.
6. Not more than six semester units for a thesis, if a thesis is required.
7. A maximum of six units of independent study (exceptions subject to approval by the appropriate school dean).
8. No courses taken to satisfy prerequisite requirements included in the minimum of 30 units.
9. None of the following: correspondence courses, credit by examination, or similar.
10. No courses with nontraditional grades (e.g., CR, S, P).
11. A minimum grade-point average of 3.0 (B) in all courses attempted to satisfy requirements for the degree.
12. All courses completed within five years of the date of award of the degree or satisfactorily validated.

13. All courses taken after the baccalaureate (or postbaccalaureate credit granted) and not credited toward another degree.
14. A final evaluation, which may be a thesis, a project, a comprehensive examination, or any combination of these.

The approved study plan is valid as long as the student maintains continuous enrollment in regular semesters at the university; otherwise it is necessary to reapply and meet any changed or additional requirements approved in the interim.

Election of Curriculum Requirements

A student remaining in continuous attendance in regular semesters and continuing in the same curriculum may elect to meet the degree requirements in effect either at the time of entering the curriculum or at the time of completion of degree requirements, except that substitution for discontinued courses may be authorized or required by the proper authorities.

Advisers and Committees

University policy provides that each student's program for the master's degree shall be under the guidance of an adviser and committee. In some areas a graduate program adviser has been designated to give overall supervision for the graduate program and in some the graduate program adviser also serves as the individual student's adviser. The student's adviser is usually a member of the committee. The committee is responsible for all major recommendations to the dean of graduate studies regarding the student's achievement of classified standing, advancement to candidacy, and completion of the master's degree.

It is the responsibility of the student to arrange appointments for advisement and other information in the office of the academic unit offering the degree program. As a minimum, the student should obtain advisement (1) either prior to or during the first semester of attendance, (2) when requesting classified standing, and (3) when applying for a graduation check prior to the final semester.

It is advisable for the student to maintain a personal file of transcripts and other evidences of grades and achievements, and to carry these whenever seeking advisement.

Classified Standing

Classified standing is normally granted when all specified prerequisites have been satisfactorily completed, the official study plan formulated, and the recommendation made by the appropriate graduate adviser and committee to the dean of graduate studies, who gives final approval. A student must satisfactorily meet the professional, personal, scholastic, and other standards for the graduate degree curriculum, including qualifying examinations. See the section on admission and the program descriptions for requirements.

An eligible student may be granted classified standing prior to the first registration or during the first semester of registration.

In no case will a student be granted classified standing if the grade-point average in any course work already completed, which is to be applied to the study plan, is below 3.0.

It is the student's responsibility to initiate the request for classified standing in the appropriate academic unit and to make an appointment with the graduate adviser. The student will be sent a copy of the approved study plan by the Office of Graduate Affairs, and copies will be filed in the Office of Graduate Affairs, the academic unit, and the student's official folder. *A student is not officially classified until an approved study plan is on file in the Graduate Affairs Office.*

Advancement to Candidacy

A student who has been granted classified standing, as above, is normally advanced to candidacy after a request is filed for graduation by the student and an affirmative recommendation made by the graduate program adviser (as below). A minimum grade-point average of 3.0 (B) for all study plan course work is required; other scholastic, professional and personal standards, the passing of examinations, and other qualifications, may be prescribed. Only those student who continue to demonstrate a satisfactory level of scholastic competence and fitness, as determined by the appropriate authorities, shall be eligible to continue in graduate programs.

Completion of Requirements and Award of Degree

The degree is awarded upon the satisfactory completion of all general state and university requirements, the specific requirements for the particular program, the recommendation of the appropriate graduate adviser and committee (advancement to candidacy), and the approval of the faculty and the dean of graduate studies. It is highly recommended that all work for the degree, except final

course examinations, be submitted by the last day of classes, in order to assure granting of the degree by the end of the semester or session.

If a thesis is required, it must be deposited in the Titan Bookstore in accordance with the instructions shown under "Theses and Projects," no later than the last day of final examinations for the semester or session in which the degree is to be awarded.

It is the student's responsibility to file an application for a graduation check (available at the admissions and records information desk, the graduation unit, and the university Office of Graduate Affairs) accompanied by the graduation and diploma fee, prior to the beginning of the final semester. *This application initiates review of degree requirements and formal approval by the faculty as well as serving as a diploma order.* The last date to file the application is listed in the academic calendar of the class schedule for each regular semester. Candidates for August graduation must file their requests prior to registration for the spring semester.

Students who fail to complete as planned must update the application for a graduation check and do so by the appropriate deadline. An additional fee may be required.

Since Cal State Fullerton is on the semester basis, master's degree programs are ordinarily completed in January and June. A student who wishes to complete requirements during the summer must obtain written approval by the appropriate graduate adviser on a form provided for this purpose and available in the Office of Graduate Affairs. The approved form must be returned to the Office of Graduate Affairs during the spring semester prior to the particular summer.

The effective date of graduation will be the last day of the specific term in which requirements are completed.

Commencement ceremonies are held only at the end of the spring semester. Students completing requirements at the end of the fall and spring semesters and during the following summer may participate in those ceremonies. Information concerning commencement activities is sent to students by the Registrar during the final semester. If preferred, diplomas may include major and, for certain degrees, a concentration. Arrangements for cap, gown and hood rental are made in the Titan Bookstore.

Time Limit for Completion

All course work on the master's degree study plan should normally be completed within five years. The five-year time limit is defined as a total of 10 semesters for enrollment in and completion of all course work and other requirements for award of the degree.

The time may be further extended if warranted by individual circumstances and if the outdated work is validated by (1) a comprehensive examination in the relevant course, (2) an additional course, or (3) such other demonstration of competence as may be prescribed. Requests for updating should be made to appropriate graduate studies committees through the graduate program adviser. Students may obtain a form for this purpose, "Petition for Validating Outdated Coursework," in the university Office of Graduate Affairs.

When an examination is administered or the alternative completed, a report of successful completion is made to the dean of graduate studies. The grade received on the original course will be used on the master's degree study plan, rather than the CR grade used for challenge examinations. If an additional course is prescribed, the units and grades for both courses will be applied to the study plan.

Changes in Study Plan

If a classified graduate student wishes to make a change in the approved study plan, a request should be made to the appropriate graduate program adviser. Requests must be made prior to registration for any course work to be substituted or added. No course may be removed from the study plan after a student has taken it. Forms which may be used to file a request are available in the Office of Graduate Affairs.

See also "Grade-point Average Standards" and "Time Limit for Completion."

Enrollment

Consult previous sections of this catalog and the class schedule for other information and regulations relating to registration and enrollment.

Residence Requirement

A student is considered to be in residence when registered during regular semesters at this university. Of the minimum of 30 semester units of approved course work required for the master's degree, not less than 21 shall be completed in residence at this institution. Approved units earned in summer sessions may be substituted for regular semester unit requirements on a unit for unit basis. Extension credit and credit by examination may not be used to fulfill the minimum residence requirement and are not normally acceptable as part of the transfer work permitted.

Continuous Enrollment

A graduate student with a graduate degree objective should maintain continuous enrollment during regular semesters (summer sessions and extension excluded) until award of the degree. This policy is designed to eliminate the need for readmission to the university, provide opportunity for continuous use of facilities, including the Library, and assure the development of an integrated program, adequately supervised, and effectively terminated within the time limitations allowed by regulations.

A graduate student who fails to register each semester has discontinued enrollment in the graduate degree program. If the student wishes to resume studies, it will be necessary to reapply for admission to the university and to the degree program and meet any changed or additional requirements approved in the interim.

Students who may have completed all course work, but who may not have satisfactorily completed a comprehensive examination or other requirement, are expected to maintain continuous enrollment.

If a graduate student pursuing an advanced degree finds it impossible to attend during a certain semester, and is not eligible for a leave of absence, as detailed elsewhere in this catalog, permission to register in Graduate Studies 700, a course with no units of credit, which does not require class attendance, may be requested from the academic unit sponsoring the graduate degree sought. Registration in Graduate Studies 700 will normally be restricted to graduate students who have been classified or who are in a prescribed prerequisite program for a specific graduate degree (conditionally classified). For eligible students, registration in each semester when no other course work is taken will be necessary until award of the degree.

For a student whose only objective is a credential, a similar course, Credential Studies 701, is available. Consult the School of Human Development and Community Service for further details.

Students who encounter difficulties in maintaining continuous enrollment may discuss the situation with the dean of graduate studies.

Minimum Full-Time Course Unit Load

The minimum full-time unit load for a graduate student is either 12 units of course work a semester or nine units of which six are in 500-level courses. Students who are enrolled in theses, projects or similar activities and who feel that the unit count does not adequately reflect the intensity of academic activities, may request a review. Consult the Office of Graduate Affairs for further information.

Maximum Course Unit Load

Twelve units is considered to be a maximum load for graduate students, but, on the approval of an adviser, in exceptional cases, a student may take more.

Enrollment in Extended Education Programs

In addition to its regular academic programs, the university offers a number of courses through its extended education program which includes the summer session, the extension program and adjunct enrollment (a program permitting those who are not formally enrolled to take regular university courses).

The applicability of credit earned through courses taken in any of the programs sponsored by the Office of Extended Education is governed by Title 5 of the *California Administrative Code* and local university policies, which can be summarized as follows:

Summer Sessions: Appropriate courses taken during the summer session may be applied to a graduate degree program, providing the courses are approved *in advance* by the appropriate authorities. Since the funding of graduate work during the summer months does not include the necessary advisement and supervision, appropriate advisers and committees may not be available. Students should also be aware that summer session courses, in order to be self-sufficient, must enroll a minimum number of students to materialize.

A normal full-time program of study in the summer session is one and one-third units of course work per week of instruction.

Extension: A maximum of six units of credit earned in the university extension program (including intersession program) may be applied to a graduate degree. Consultation with a graduate adviser *before* taking an extension course is strongly recommended.

It should be noted that enrollment in summer session or extension courses does not constitute admission to the university. Any student desiring a master's degree must be admitted to a regular semester (fall or spring) and is expected to be enrolled continuously until award of the degree (see "Continuous Enrollment").

Postgraduate Credit

Petitions for postgraduate credit for course work taken in excess of baccalaureate degree requirements at Cal State Fullerton are obtained and filed in the Office of Admissions and Records. If approved, the appropriate notations will be entered upon the permanent record of the student.

A graduate student at Cal State Fullerton may petition for permission to consider course work which was not required for the baccalaureate as postgraduate.

If, following admission in graduate standing with a master's degree objective, approval is given by the appropriate *graduate program adviser,* the committee and the dean of graduate studies, such course work may be included as a part of the student's study plan, within existing regulations concerning applicable course work and requirements for the degree. See also the statement below concerning "Enrollment in 500-Level Courses by Seniors."

Enrollment in 500-Level Courses by Seniors

Under certain circumstances, a senior may take a 500-level course. The student must have a minimum grade-point average of 3.25 overall and of 3.5 in the field or fields of the intended graduate program, and the specific approval of the dean or chair of the academic unit in which the course is offered, and the chair or dean of the student's major area.

If the senior *is* within nine units of completion of graduation requirements and has the approval of the appropriate chair or deans, as above, a petition may be filed for postgraduate credit for 500-level courses as provided under "Postgraduate Credit." If the student *is not* within nine units of graduation, postgraduate credit for such courses may not be granted.

Leave of Absence

A leave of absence permits a student to continue under the curriculum requirements that applied prior to the absence (see "Election of Curriculum Requirements") and may be granted for a maximum of one year. Illness is the only *routinely* approved reason for a leave of absence. Petitions are filed in the admissions and records office. A leave for educational purposes is also a possibility. Consult the Office of Graduate Affairs for more information. Even though granted a leave of absence, a student must file an application for admission to this institution in order to be readmitted when the leave terminates. Students should realize that an approved leave of absence does not reserve a place for them at this institution.

Graduate students in master's degree programs who are unable to qualify for either a normal leave of absence or an educational leave, may enroll in Graduate Studies 700, Continuous enrollment, which does not require class attendance.

Second Master's Degree or Concentration

A graduate student desiring to work for a second master's degree must request permission before applying for admission. Similarly, a student who has completed a master's degree at Cal State Fullerton in one concentration and wishes to enroll for work in another concentration, must also request permission, although a second degree will not be awarded.

A letter should be sent to the dean of graduate studies, giving supportive reasons and indicating the university awarding the first master's degree, the major, and year of award. If the request is granted, the student must satisfy all requirements of the new degree program. Units used for the first degree may not be applied to the second. Approval of conditionally classified standing (admission) for the second degree will be given only after the first degree has been awarded. For further information, consult the Office of Graduate Affairs.

Academic and Grading Standards

Standards for Graduate Study

Graduate study deals with more complex ideas and demands more sophisticated techniques, searching analysis, and creative thinking than undergraduate study. The research required is extensive in both primary and secondary sources and the quality of writing expected is high. The student is advised to consider these factors when deciding upon the amount of coursework to be undertaken during any one semester.

Grading System

The grading system is described in the preceding section of this catalog.

Although the university utilizes a combination of traditional and nontraditional grading options, only the traditional letter grades are acceptable for courses which are on study plans leading to a master's degree. Nontraditional grading options are available to undergraduate students, nonobjective postbaccalaureate (unclassified) students, and to classified graduate students for courses not included in the approved study plan.

Grade-Point Average Standards

Grade-point average standards for admission are described elsewhere in this catalog.

The grade-point average required for prerequisites to be met prior to the granting of classified standing varies according to the particular program. Consult descriptions of programs elsewhere in this catalog. A student is expected to earn a 3.0 average in all postbaccalaureate course work taken at this university plus such transfer courses as are applied to the study plan. Exception to this rule may be granted only if courses whose grades are not to be computed in the GPA have never been part of the student's study plan for the degree and if it is evident that they are inapplicable and inappropriate to the degree program.

No student may be granted classified standing with less than a B average for courses on the study plan already completed.

Students in conditionally classified and classified graduate standing are subject to academic probation and disqualification if they do not maintain a cumulative grade-point average of at least 3.0 in all units attempted subsequent to admission to the degree program.

The 30 semester units or more of approved study plan course work required for the degree must be completed with a 3.0 (B) minimum grade-point average. If a student approaches the completion of the degree requirements with less than a 3.0 average, a request may be made for a change in the study plan to add no more than six units of course work in order to achieve at least a 3.0 average (see "Changes in Study Plan"). If the grade-point average at any time falls below such a level that it cannot be raised to a 3.0 within the prescribed limits of course work, this has the effect of withdrawing the student from the masters' degree program.

Grade-point averages are calculated by dividing grade points earned by units attempted. If permission is given to repeat a course, and the course is successfully repeated, both grades are considered in computing grade-point averages. However, successful repetition of a course originally passed carries no additional unit credit toward a degree.

Academic Probation and Disqualification

A graduate student enrolled in a graduate degree program in either conditionally classified or classified graduate standing is subject to academic probation if a cumulative grade-point average of at least 3.0 (grade of B on a five-point scale) is not maintained in all units attempted after admission to the program.

If sufficient grade points to remove probationary status are not earned while on probation, the student is subject to disqualification. Disqualification will prevent further registration in a particular program or further enrollment in the university, as determined by appropriate campus authority.

A graduate student may also be placed on probation or may be disqualified for unsatisfactory scholastic progress regardless of cumulative grade-point average. Such actions may be due to repeated withdrawal, failure to progress toward an educational objective, and non-compliance with an academic requirement.

Conditionally classified or classified graduate students may also be disqualified as noted below, under "Declassification."

A postbaccalaureate student (credential, unclassified, or undeclared status) shall be subject to academic probation if after completing 12 or more units, the cumulative grade-point average falls

below a 2.5 average. A postbaccalaureate student on probation shall be subject to disqualification if at least a 2.50 grade-point average is not earned each term after the completion of 12 units in postbaccalaureate status. Disqualification may be either from further registration as a postbaccalaureate credential, or certificate program or from further enrollment in the university as determined by the appropriate campus authority.

Declassification

Graduate students in classified graduate standing shall be declassified upon the recommendation of the appropriate academic unit, with a change to postbaccalaureate standing, unclassified, when one or more of the following conditions exist:

1. The student's request for declassification has been recommended for approval by the graduate committee.
2. The student fails to maintain the grade-point average required in the master's degree program.
3. The student has failed to demonstrate a satisfactory level of scholastic competence and fitness.
4. The student fails to complete the degree within the prescribed time limit.

A recommendation for declassification is sent to the Office of Graduate Affairs by the graduate program adviser for the particular degree.

Right of Petition; Right of Noncompliance, Risk Activities; and Right of Academic Appeal

Consult the foregoing section of this catalog, under "Records and Regulations." Consult the Office of Graduate Affairs regarding the appropriate place to file petitions.

Quarter Unit to Semester Unit Conversion

A unit of course work taken at a college or university on the quarter system will be considered as equivalent to two-thirds of a unit when such course work is considered acceptable as transfer work.

Theses and Projects

Definition

According to the definition approved by the university, a thesis is a systematic study of a significant problem. The problem, its major assumptions, its significance, the methods and sources for gathering data, the analysis of data, and the conclusions and recommendations, should be clearly stated. A project is defined as either (1) the systematic development of a plan for, or the critical evaluation of a significant undertaking, or (2) a creative work such as a novel, a musical composition or a group of paintings. Quality of work accomplished is a major consideration in judging the acceptability of any thesis or project. The finished product must evidence originality, appropriate organization, clarity of purpose, critical analysis, and accuracy and completeness of documentation where needed. Mere description, cataloging, compilation or other superficial procedures are not adequate. Critical thinking and independent thinking should characterize every thesis and every project.

General Regulations

Of the minimum of 30 semester units of approved course work required for the master's degree, no more than six are allowed for a thesis.

When a thesis is required, the Library is to be provided with the approved original copy, or a fully acceptable duplicated copy, in the approved binding, and an acceptable microfilm of it. An abstract accompanies the thesis and will normally be published in the University Microfilms International journal, *Masters Abstracts*. Copies are thereby made available for order by interested scholars.

When a project is required, it will be filed with the academic unit offering the degree program. Some record of the project, or the project itself, is preserved in the academic unit and, when appropriate, in the Library. When the appropriate authority recommends, a project or its written record may be treated as a thesis.

Although a minimum of three faculty members supervise and approve the thesis, it is possible for a qualified person who is not a regular university faculty member to serve as a visiting examiner and join in the approval of the written record.

Title to theses (and projects when treated as theses, as above) passes to the university upon their acceptance by the evaluating faculty.

Variations from procedures and regulations should be referred to the Office of Graduate Affairs for approval.

Regulations on Form

The "Form of Theses" regulations specify paper and format and give a sample title and approval page. Copies may be obtained in the Office of Graduate Affairs and from the thesis clerk in the university library. If the supplementary style manual (as follows) presents alternative or conflicting regulations, these regulations take precedence. The thesis clerk in the university Library is responsible for adherence to these regulations and signs an approval form to this effect. Since the thesis clerk can give helpful counsel on format and related matters, the student is advised to consult with the clerk well in advance of the final typing of the thesis. *Theses from the library shelves should not be used as examples of correct format.*

Supplementary Style Manuals

Each academic unit selects a style manual to be followed in matters of documentation and bibliography. Consult the appropriate graduate program adviser concerning the style manual used. The academic unit, through the student's adviser and/or committee, is responsible for the academic content and English usage in the thesis and for the student's correct use of forms of documentation and bibliography.

Some graduate programs require style manuals or guides designed for journal articles. Although these are helpful for abbreviations, tables, figures and footnoting, as well as other purposes, students should be aware of the difference between a thesis and an article and make appropriate adaptations, approved by the graduate program adviser.

Typing of the Thesis

The student makes all necessary arrangements for the typing of the thesis. The university Career Development Center maintains a listing of students and others who have indicated their availability for typing assignments. An experienced typist is strongly advised, although the university does not endorse or recommend typists.

Deadlines

It is recommended that the academic area sponsoring the degree program require that the final version of the thesis be submitted for approval *at least six weeks* prior to the last day of classes of the appropriate semester. The deadline for submission to the Library adviser is *one week prior to the last day of classes.* For summer completion, the student should check with the academic unit and the Library adviser for appropriate deadlines. The Office of Graduate Affairs must receive notification from the Titan Bookstore by the *last day of final examinations* for the appropriate semester or session that the thesis has been deposited there and the fees paid. Ample time should be allowed for any special arrangements, such as duplication of the thesis by the Titan Bookstore or elsewhere, prior to the deadline. Once submitted and receipted, the thesis may not be withdrawn by the student from the Titan Bookstore.

Final Procedures

Adequate time should be allowed for typing, reading and approval by the adviser, the committee members, and the thesis clerk in the library, for revisions, as needed, and for completion of the final edition of the thesis. No changes or additions will be allowed after the final signatures have been obtained. Early consultation with the library thesis clerk is recommended.

When completed, the student obtains the approving signatures, on the approval page, of all of the members of the committee. If there is a disagreement within the committee concerning the acceptability of the thesis, the approving signatures of a majority of the committee will be sufficient. Nonavailability of one member of the committee is not an adequate reason for acceptance of signatures by less than the full committee. The library thesis clerk approves on a special form. Two sets of any slides or illustrative material are deposited in the library, to be held by special collections and later added to the bound and microfilm copies.

The student takes the approved copy of the thesis, including an additional copy of the title and approval page, accompanied by the library approval form, to the Titan Bookstore and pays the appropriate fees.

The bookstore arranges for the binding of the thesis by a local bindery and other services by University Microfilms International. An agreement is normally completed for UMI to publish the abstract in *Masters Abstracts,* prepare a negative microfilm, and sell microfilm or xerographic copies to interested scholars. The university will accept alternative methods of microfilming, duplication of printed copies and binding, subject to the specifications on file in the Graduate Affairs Office. Arrangements for copyrighting are also possible, if desired, through UMI.

Notification for Award of the Degree: The grade for the thesis is reported in the usual manner to the office of the registrar by the appropriate faculty. The Titan Bookstore notifies the Office of Graduate Affairs that the approved thesis has been deposited, the fees paid, and the agreement for microfilming and publication of the abstract completed by the student. This notification must be received no later than the *last day of final examinations* for the appropriate semester or session in which the degree is to be awarded.

Depositing of Thesis in Library: The Titan Bookstore sends the approved original or duplicated copy (including the original signed approval page) to University Microfilms, International, for filming and publication of the abstract, and upon its return sends it to the bindery. When returned by the bindery, the bound copy is deposited for circulation in the library. One set of the slides or separately mounted illustrative material is housed with the bound copy. The second set is placed in the university archives with the microfilm copy.

SUMMARY OF STEPS IN THE MASTER'S DEGREE PROGRAM

For further information concerning procedures, consult the Index and the references in this "Graduate Degree Programs" section, or the Office of Graduate Affairs. There may be additional steps for individual students in particular programs; for these, consult the program description and the academic unit (school, division, department or program) offering the degree program.

→ Action initiated by student (as indicated below)

1. *Admission to Graduate Standing: Conditionally Classified* *

→ **Apply for admission (see Academic Calendar for filing dates)**

→ Declare objective(s), using precise codes (see application form)

Receive space reservation from Admissions Office

→ Request two sets of official transcripts of all previous college-level course work attempted to be sent to Admissions Office

→ Take tests, if required by program, and order test scores sent to Cal State Fullerton, designating appropriate academic unit (see test registration form)

→ Consult appropriate academic unit for advisement

→ Provide appropriate academic unit with any other supporting statements or materials, as required

Recommendation for admission made by academic unit to Admissions Office

Receive notification of admission from Admissions Office

2. *Graduate Standing: Classified*

→ Complete any course prerequisites and/or remove deficiencies

→ **Apply for classified standing in the academic area offering the particular program prior to completion of nine units of study plan course work**

→ Consult appropriate academic unit for advisement, including development of official study plan

→ Provide appropriate academic unit with any other supporting statments or materials, as shown in program descriptions in this catalog

→ Take tests (unless previously taken), if required by program, and order test scores sent to Cal State Fullerton, designating appropriate academic unit (see test registration form)

Recommendation made by academic unit to the dean of graduate studies

Receive notification of granting of classified standing from Office of Graduate Affairs

Copy of study plan is sent, showing approval by the dean of graduate studies.

→ If not received within a reasonable length of time, call the academic unit sponsoring the degree or the Office of Graduate Affairs.

3. *Completion of Requirements*

→ **Apply for a graduation check and advancement to candidacy *prior to the beginning of the final semester and no later than the deadline*** ** **initiating university review and formal approval by faculty** (The form is available at

---

* If admitted to the university in postbaccalaureate standing: unclassified, the student may subsequently file an "Application for Change of Academic Objective—Graduate," without payment of fee, if desiring admission to a master's degree program. Such requests will be evaluated and processed in essentially the same manner as for a new student applicant.

** See Academic Calendar for deadlines. Note that students completing requirements during the summer need to obtain written approval of their plan by the appropriate authorities in the particular academic unit (form available in university Office of Graduate Affairs).

the Admissions and Records information desk, the Graduation Unit and the university Office of Graduate Affairs. A graduation and diploma fee must be paid when filing request with the university cashier.)

→ Consult appropriate academic unit for advisement
→ Complete written and/or oral examination, if required
→ Complete thesis or project, if applicable
  → Obtain approval of committee
  → Obtain approval of Library adviser (thesis only)
  → Deposit approved copy of thesis and make arrangements for binding, microfilming and publication of the abstract in the Titan Bookstore (or acceptable alternative) by the applicable deadline

Final, approved study plan, with recommendation, sent by appropriate academic unit to dean of graduate studies

Preliminary approval, pending adequate grades, and completion of any other requirements, granted by dean of graduate studies.

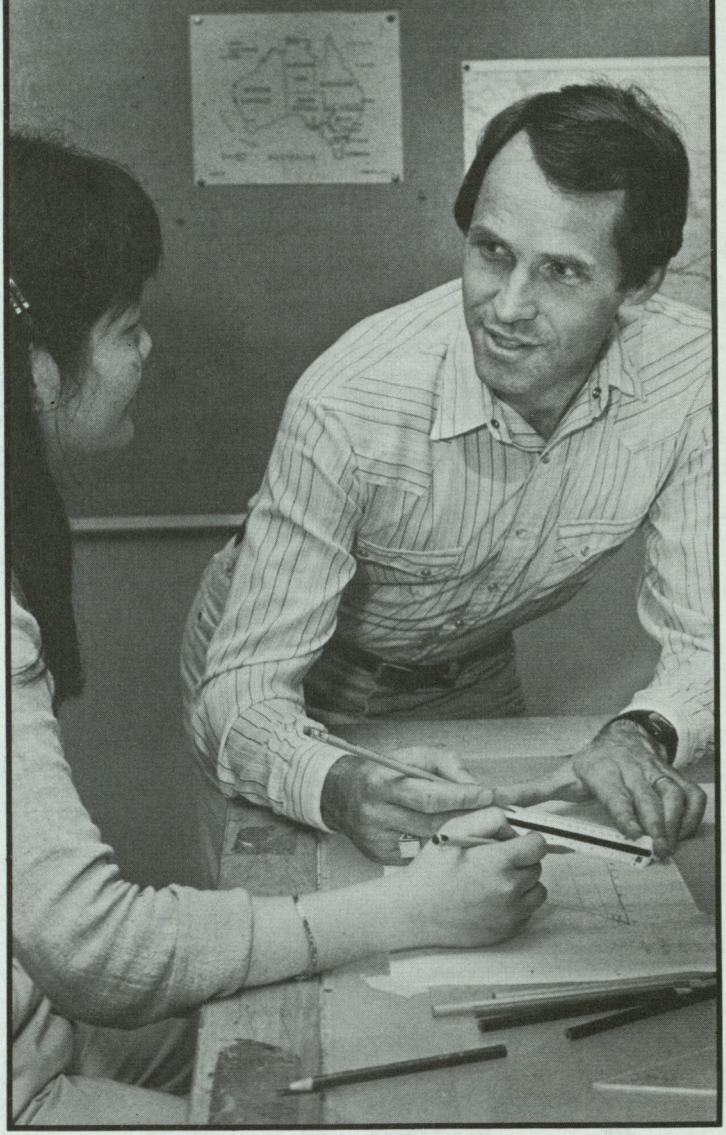
→ Complete all general and specific requirements, other than final course examinations, by the last day of classes, in order to assure granting of the degree by the end of the semester

Final verification of completion of requirements sent by the Office of Graduate Affairs to the registrar

Receive notification of award of degree from registrar approximately six weeks after the end of the semester

4. Commencement

→ Make appropriate arrangements for cap, gown and hood rental in Titan Bookstore (Commencement ceremonies are held only at the end of the spring semester. Consult "Completion of Requirements and Award of Degree," under "General Requirements for the Master's Degree."



FACULTY AND ADMINISTRATION

FACULTY AND ADMINISTRATION 1982–83

(Year in parentheses indicates date of appointment as a full-time member of the faculty.)

ABDELWAHED, FAROUK H. (1973), Associate Professor of Management
L.L.B., University of Ein Shams; M.P.A., University of Southern California; Ph.D., University of California, Los Angeles

ADAMS, GENE M. (1973), Professor of Physical Education
B.S., M.S., University of California, Los Angeles; Ph.D., University of Southern California

ADAMS, MICHAEL (1982), Lecturer in Communications
B.A., M.A., Ohio State University

ADAMS, PHILLIP A. (1963), Professor of Biology
B.S., University of California, Berkeley; M.A., Ph.D., Harvard University

ADAMS, RAYMOND V. (1960), Professor of Physics
B.S., Kansas State University; Ph.D., California Institute of Technology

ALEXANDER, JAMES P. (1960), Professor of Communications
B.A., M.S., University of Southern California; Ed.D., University of California, Los Angeles

ALOIA, STEPHEN D. (1980), Assistant Professor of Special Education
B.A., St. Mary's College; M.A., California State University, Chico; Ph.D., University of California, Riverside

AMES, DENNIS B. (1960), Professor of Mathematics, *Emeritus*
B.A., M.A., Bishop's University; Ph.D., Yale University

AMES, MICHAEL D. (1976), Professor of Management
B.A., University of California, Santa Barbara; M.B.E., Ph.D., Claremont Graduate School

ANDERMAN, STEVEN G. (1981), Associate Professor of Accounting
B.S., California State University, Long Beach; M.B.A., California State University, Fullerton; Ph.D., University of Nebraska-Lincoln

ANDERSEN, MARTIN P. (1965), Professor of Speech Communication, *Emeritus*
B.A., M.A., Ph.D., University of Wisconsin

ANDERSEN-FIALA, LINDA R. (1970), Associate Professor of French
B.A., Kalamazoo College; M.A., Ph.D., University of California, Los Angeles

ANDERSON, HENRY R. (1975), Dean, School of Business Administration and Economics; and Professor of Accounting
B.A., Augustana College; M.S., Northern Illinois University; Ph.D., University of Missouri; C.P.A.; C.M.A.

ANDRIS, RONALD G. (1974), Director, University Recreation Programs
B.S., University of Illinois; M.S., University of California, Los Angeles

APKE, THOMAS M. (1974), Associate Professor of Management
B.S., Pennsylvania State University; J.D., Marquette University

ARANA, OSWALDO (1965), Professor of Spanish
B.A., Texas Christian University; M.A., Ph.D., University of Colorado

ARMS, BARBARA (1980), Assistant Professor of Theatre

ARNOLD, JOSEPH H., JR. (1973), Associate Professor of Theatre
B.A., Drury College; M.A., Ph.D., University of Illinois

ASO, TAKENORI (1973), Associate Professor of Sociology
B.S., Iowa State University; M.S., University of North Dakota; Ph.D. Washington State University

ATKIN, KENWARD L. (1974), Professor of Communications
A.B., M.B.A., University of Michigan; Ph.D., Michigan State University

AUSTIN, DON D. (1963), Professor of English
B.A., M.A., University of Redlands; Ph.D., University of Washington

AXELRAD, ALLAN M. (1976), Associate Professor of American Studies
B.A., M.A., University of California, Riverside; M.A., University of Pennsylvania; Ph.D., University of Pennsylvania

AYANIAN, ROBERT L. (1977), Associate Professor of Economics
B.S., Clarkson College; M.S., University of Wisconsin; Ph.D., University of California, Los Angeles

AZGHANDI, BAGHER (1982), Lecturer in Computer Science
B.S., National University of Iran; M.S., California State University, Fullerton

BADEN, NANCY T. (1969), Professor of Spanish and Portuguese
B.A., M.A., Ph.D., University of California, Los Angeles

BAGLEY, RAYMOND B. (1981), Associate Professor of Computer Science
B.S.E.E., Pacific States University; M.S., Pepperdine University

BAGRASH, FRANK M. (1974), Associate Professor of Psychology
B.A., Southern Methodist University; M.A., California State University, Northridge; Ph.D., University of California, Los Angeles

BAILEY, C. IAN (1972), Professor of Physical Education
Diploma, Carnegie College of Physical Education; M.A., Colorado State College; Ph.D., University of Utah
BAIRD, DAVID D. (1976), Procurement and Support Services Officer
B.S., Ohio State University; B.S., United States Merchant Marine Academy
BAKER, CHARLES A. (1975), Associate Professor of Music
B.M., M.M., D.M.A., Eastman School of Music, University of Rochester
BAKER, MARTHA J. (1975), Associate Professor of Music
B.S., Anderson College; M.M., Southern Illinois University; Ed.D., Nova University
BAKKEN, GORDON M. (1969), Director of Faculty Affairs and Records; and Professor of History
B.S., M.S., Ph.D., J.D., University of Wisconsin
BALDWIN, SIDNEY (1967), Professor of Political Science
B.A., Wesleyan University; M.P.A., Ph.D., Syracuse University
BALGIE, Gerald M. (1977), Lecturer in Psychology
B.A., University of California, Berkeley; M.A., California State University, Fullerton
BALLMER, HELENE D. (1977), Lecturer in Psychology
B.A., M.A., California State University, Fullerton
BALTIERRA, JUANITA (1981), Counselor/Instructor, Educational Opportunity Program
B.A., California State University, Long Beach; M.Ed., University of Hawaii
BANDY, D. DALE (1972), Professor of Accounting
B.S.B.A., University of Tulsa; M.B.A., University of Arkansas; C.P.A.; Ph.D., University of Texas
BANKS, KATHERINE J. (1973), Associate Director of Student Activities, University Activities Center
B.A., California State University, Fullerton; M.A., Azusa Pacific College
BARATH, ROBERT M. (1974), Professor of Marketing
B.B.A., Cleveland State University; D.B.A., Kent State University
BARISH, NATALIE (1966), Professor of Biology
A.B., Goucher College; M.A., Indiana University; Ph.D., Ohio State University
BARNES, BETTY J. (1972), Professor of Education
B.A., Pomona College; M.A., Ph.D., Claremont Graduate School
BARNES, CAROL P. (1975), Associate Professor of Education and Child Development; and Coordinator, Child Development Program
A.B., University of Michigan; M.Ed., Wright State University; Ph.D., Claremont Graduate School
BARON, AILEEN G. (1973), Associate Professor of Anthropology
Ph.B., University of Chicago; B.A., California State University, Fullerton; M.A., University of California, Riverside; Ph.D., University of California, Riverside
BARRETT, JEAN A. (1963), Professor of Physical Education
B.S., Cortland State Teachers College; Ed.M., Ed.D., University of Buffalo
BATTAN, JESSE F. (1980), Lecturer in American Studies
B.A., University of California, Berkeley; M.A., New York University; C.Ph., University of California, Los Angeles
BEAN, THOMAS W. (1979), Associate Professor of Reading
B.A., University of Hawaii; M.A., Southern Oregon State College; Ph.D., Arizona State University
BEAUBIER, EDWARD W. (1975), Professor of Educational Administration
B.S., M.S., M.E., Ed.D., University of Southern California
BECK, WARREN A. (1961), Professor of History
B.A., M.A., Wayne University; Ph.D., Ohio State University
BECKER, ERNEST A. (1959), Dean of Students; Director of Career Planning and Placement; and Professor of Philosophy, *Emeritus*
B.A., Amherst College; B.D., Hartford Theological Seminary; M.A., Ed.D., University of Southern California
BECKER, JOSEPH F. (1978), Associate Professor of Physics
B.S., M.A., Hofstra University; M.S., Ph.D., New York University
BECKETT, RALPH L., SR. (1970), Professor of Speech Communication
A.B., M.A., Ph.D., University of Southern California
BECKMAN, WALTER F. (1971), Professor of Educational Administration
B.A., Northern Illinois University; M.A., Northwestern University; Ph.D., Claremont Graduate School
BEDELL, JOHN W. (1969), Professor of Sociology
A.B., Franklin and Marshall College; M.A., Ph.D., Case Western Reserve University
BEDNAR, DICK D. (1973), Instructional Coordinator, Computer Center
B.A., M.A., M.B.A., Oklahoma University
BELL, ARTHUR H. (1973), Professor of English
B.A., Concordia College; M.A., University of Southern California; M.A., Ph.D., Harvard University
BELL, CHARLES G. (1964), Professor of Political Science
B.A., Pomona College; M.A., Ph.D., University of Southern California
BELL, TONY (1968), Professor of Sociology; and Chair, Sociology Department
B.A., M.A., University of California, Santa Barbara; Ph.D., University of Texas
BELL, WILLIAM E. (1969), Professor of Marketing
B.A., M.B.A., D.B.A., Michigan State University
BELLOLI, ROBERT C. (1968), Professor of Chemistry
B.S., St. Louis University; Ph.D., University of California, Berkeley

BELLOT, LELAND J. (1964), Professor of History
B.A., Lamar State College; M.A., Rice Institute; Ph.D., University of Texas
BENSON, RUSSELL V. (1965), Professor of Mathematics
B.E.E., Cornell University; M.A., Ph.D., University of Southern California; M.Div., Fuller Theological Seminary
BERFIELD, B. DAVID (1971), Professor of Music
B.M., Oberlin Conservatory of Music; M.M., D.M.A., University of Southern California
BERG, DENNIS F. (1970), Associate Dean, School of Humanities and Social Sciences; and Professor of Sociology
B.A., M.A., California State University, Fullerton; Ph.D., University of Southern California
BERMAN, STEPHEN J. (1981), Lecturer in Communications
B.A., M.A., University of Southern California
BICKNER, MEI LIANG (1974), Professor of Management
B.A., M.B.A., Ph.D., University of California, Los Angeles
BIGELOW, RALPH EMERSON (1966), Dean of Admissions and Records; and Adjunct Professor of Education
B.Mus., M.Mus., University of Rochester; Ph.D., University of Southern California
BIRD, ANNE MARIE (1977), Professor of Physical Education
B.S., State University of New York; M.A., University of Maryland; Ph.D., University of Colorado
BISHOP, ASHLEY L. (1976), Professor of Reading
B.A., M.A., San Diego State University; Ed.D., Arizona State University
BLEND, HARVEY (1963), Professor of Physics, *Emeritus*
B.S., University of Texas; M.S., Ph.D., University of California, Los Angeles
BOARINO, GERALD L. (1965), Professor of Spanish
B.A., M.A., Ph.D., University of California, Berkeley
BOBELE, KENNETH (1977), Professor of Management
B.S., Ph.D., University of California, Los Angeles
BOSTON, ROSEMARY (1969), Professor of English
B.A., Baldwin-Wallace College; A.M., University of Pennsylvania; Ph.D., University of Washington
BOTT, VIRGINIA B. (1976), Professor of Political Science
A.B., Goucher College; M.A., Ph.D., Johns Hopkins University
BOYUM, KEITH O. (1972), Professor of Political Science
B.A., University of North Dakota; M.A., Ph.D., University of Minnesota
BRADSHAW, L. JACK (1965), Professor of Biology
B.A., Ph.D., Stanford University
BRAGG, MARY JANE (1966), Librarian
B.A., Occidental College; M.A., Columbia University; M.L.S., University of California, Los Angeles
BRANHAM, CHERYL W. (1980), Counselor, Career Development Center
B.A., Stephens College; M.Ed., University of Missouri
BRATTSTROM, BAYARD H. (1960), Professor of Zoology
B.S., San Diego State University; M.A., Ph.D., University of California, Los Angeles
BREESE, LAUREN W. (1965), Professor of History
B.A., Pomona College; M.A., Ph.D., University of California, Los Angeles
BREM, GERALD F. (1976), Associate Professor of Earth Science
B.A., M.A., Ph.D., University of California, Riverside
BRIL, PATRICIA L. (1971), Librarian; and Chair, Readers' Services
B.A., University of California, Irvine; M.S.L.S., University of Southern California, M.P.A., California State University, Fullerton
BROADBENT, LEE A. (1975), Counselor, Career Development Center
B.A., University of California, Santa Barbara; M.A., Ed.D., University of California, Los Angeles
BROCK, RICHARD R. (1973), Professor of Civil Engineering
B.S., M.S., University of California, Berkeley; Ph.D., California Institute of Technology
BROCKMANN, LOUIS O. (1963), Professor of Education, *Emeritus*
B.A., M.A., Ph.D., University of Wisconsin
BROCKRIEDE, WAYNE E. (1977), Professor of Speech Communication; and Chair of Speech Communication Department
B.S., M.S., Indiana State University; Ph.D., University of Illinois
BROWER, JONATHAN J. (1972), Professor of Sociology
B.S., Ph.D., University of California, Santa Barbara; M.A., California State University, Northridge
BROWN, DANIEL A. (1972), Professor of Religious Studies
S.T.B., S.T.L., Marianum, Rome; Ph.D., Catholic University
BROWN, GILES T. (1960), Associate Vice President, Academic Programs and Graduate Studies; and Professor of History
B.A., San Diego State University; M.A., University of California, Berkeley; Ph.D., Claremont Graduate School
BROWN, MICHAEL E. (1967), Professor of Political Science
B.A., California State University, Long Beach; Ph.D., University of Southern California
BROWNING, ROBERTA F. (1970), Acting Assistant Dean, Student Services
B.A., Bucknell University; M.S., California State University, Fullerton
BRUCE, GRADY D. (1981), Professor of Marketing
B.B.A., University of Texas; M.B.A., Ph.D., Louisiana State University

BRUCE, MICHAEL KELLEY (1982), Lecturer in Theater
B.A., Stephens College
BRUGALETTA, JOHN J. (1970), Professor of English
B.A., M.A., Arizona State University; Ph.D., University of Missouri
BRYDEN, JOHN H. (1961), Professor of Chemistry
B.S., College of Idaho; M.S., California Institute of Technology; Ph.D., University of California, Los Angeles
BUCHMAN, EDWIN O. (1968), Professor of Mathematics
B.S., California Institute of Technology; Ph.D., University of California, Los Angeles
BUCK, CHARLES W. (1964), Director of Testing and Research
B.A., Occidental College; M.A., University of Oregon; Ph.D., Columbia University
BUCK, J. VINCENT (1974), Associate Professor of Political Science; and Coordinator, Environmental Studies Program, beginning Spring 1983
B.A., University of California, Berkeley; M.A., Ph.D., Stanford University
BUCKLEY, CHRISTOPHER P. (1971), Professor of Earth Science
B.S., California State University, Long Beach; M.S., San Jose State University; Ph.D., Rice University
BUCUZZO, JOSEPH J. (1970), Associate Professor of Mathematics
B.S., M.A., University of Massachusetts; Ph.D., University of Notre Dame
BUESO, ALBERTO T. (1974), Professor of Finance
B.S., University of Illinois; M.B.A., California State University, Fullerton; Ph.D., University of Texas
BURK, JACK H. (1971), Professor of Biology
B.S., Fort Lewis College; Ph.D., New Mexico State University
BURKE, MAX W. (1960), Director of Placement Services and Associate Professor of Education, *Emeritus*
B.A., University of Iowa; B.D., Colgate-Rochester Divinity School
BUZAN, BERT C. (1976), Associate Professor of Political Science
B.A., M.A., Ph.D., University of Texas at Austin
CADDES, ROBERT E. (1976), Associate Professor of Art
B.S., California Polytechnic State University, San Luis Obispo
CALHOUN, FENTON E. (1970), Associate Professor of Communications
B.A., Michigan State University; M.A., Ph.D., Wayne State University
CALLISON, WILLIAM L. (1974), Professor of Educational Administration
B.A., Occidental College; Ph.D., Stanford University
CAPUNE, W. GARRETT (1969), Professor of Criminal Justice and Sociology; and Chair, Criminal Justice Department
B.A., M.Crim., D.Crim., University of California, Berkeley
CARBONE, MARTIN E. (1979), Coordinator of University Conferences and Facilities
B.A., M.A., University of Western Ontario; Phil.M. University of Toronto
CARDENAS, ISAAC (1974), Professor of Chicano Studies; and Chair of Chicano Studies Department
B.A., St. Mary's University, San Antonio; M.A., Texas A&I University; Ed.D., University of Massachusetts
CARLSON, GAYLEN R. (1973), Professor of Science Education and Teacher Education; and Coordinator, Science Education Program
B.A., Buena Vista College; M.A., Drake University; Ph.D., The University of Iowa
CARR, EDWIN R. (1960), Professor of Education and Economics, *Emeritus*
B.A., Jamestown College; M.A., Columbia University; Ph.D., University of Minnesota
CARROLL, EDWARD O. (1973), Associate Athletic Director and Business Manager
B.A., B.S., California State University, Fullerton
CARTER, CHARLES C. (1977), Lecturer in Physics
B.A., Pomona College; M.S., Massachusetts Institute of Technology; Ph.D., Rockefeller University
CARTLEDGE, SAMUEL J. (1966), Associate Professor of French
A.B., King College; Ph.D., Yale University
CASEY, CAROLL N. (1982), Lecturer in Counseling
B.A., University of Maine; M.A., Ph.D., University of Colorado
CASEY, FRANCIS M. (1978), Assistant to the Dean of Admissions and Records
B.S., Loyola University; M.A., Chapman College; M.S. University of Southern California; Ph.D., Claremont Graduate School
CASTELLANOS, GLORIA G. (1970), Professor of Mathematics
Bachelor's Degree, Pre-University Institute, Camaguey, Cuba; M.A., California State University, Fullerton; Doctor's Degree, University of Havana
CHADWICK, CAROLE S. (1967), Associate Professor of Music
B.A., University of Delaware; M.A., Columbia University Teachers College; D.M.A., University of Southern California
CHAPMAN, ROBERT L. (1973), Associate Professor of Management
B.S.M.E., M.S., University of North Dakota; Ph.D., University of Chicago
CHARLTON, F. ANDREW (1965), Professor of Music
B.M.Ed., Pepperdine College; M.A., California State University, Los Angeles
CHEN, SHU-JEN (1978), Associate Professor of Management Science
B.B.A., National Taiwan University; Ph.D. University of Cologne

CHENG, ANGELA KIT-LAI (1980), Lecturer in Management Science
B.A., M.B.A., California State University, Fullerton
CHIANG, GEORGE C. (1967), Professor of Civil Engineering
B.S., National Taiwan University; M.S., University of Southern California; Ph.D., Stanford University
CHIANG, VERONICA T. (1968), Librarian; and Coordinator, Rapid Cataloguing Section
B.A., Tamkang College of Letters and Science; M.S.L.S., University of Southern California
CHING, ALVIN K. (1967), Professor of Art
B.A., California State University, Long Beach; M.F.A., Cranbrook Academy of Art
CHOINIERE, RAYMOND F. (1977), Lecturer in Counseling
B.A., M.A., San Francisco State University
CHOW, WEN MOU (1969), Professor of Management Science
B.S., Chiao-Tung University; Sc.D., Massachusetts Institute of Technology
CHRISTIANSON, ROBERT (1981), Assistant Professor of Theater
B.S., Western Michigan University; M.F.A., University of Utah
CHU, KWANG-WEN (1970), Professor of Economics
B.A., National Taiwan University; M.A., University of Minnesota; Ph.D., University of California, Los Angeles
CLAPP, MICHAEL H. (1969), Associate Vice President, Academic Affairs; and Professor of Mathematics
A.B., Occidental College; M.A., M.S., Ph.D., University of Washington
CLAPPER, RONALD E. (1974), Lecturer in Liberal Studies and Coordinator, Liberal Studies Program
B.A., M.A., Ph.D., University of California, Los Angeles
CLARK, KEITH S. (1977), Associate Professor of Music
B.A., M.A., Ph.D., University of California, Los Angeles
COBB, JEWEL PLUMMER (1981), President and Professor of Biological Science
B.A. Talladega College; M.S., Ph.D., New York University
COHN, GEORGE I. (1968), Professor of Electrical Engineering
B.S.E.E., California Institute of Technology; M.S., Ph.D., Illinois Institute of Technology
COKER, CHARMAINE L. (1973) Director of University Activities, University Activities Center
B.A., M.A., California State University, Fullerton
COLEMAN, JACK W. (1968), Professor of Accounting
B.S., Kansas University; M.B.A. University of Michigan; D.B.A., Indiana University
COLEY, SORAYA (1981), Lecturer in Human Services
A.B., Lincoln University; M.S.S., Ph.D., Bryn Mawr College
COLGAN, FRED R. (1965), Professor of Management, *Emeritus*
B.S., M.S., Ph.D., University of Southern California
COLLEA, FRANCIS P. (1970), Professor of Science Education and; Teacher Education
B.Engr., State University of New York; M.S., Ph.D., Syracuse University
CONANT, JAMES C. (1971), Professor of Management
A.B., Whittier College; Ph.D., University of Southern California
CONDON, MARY G. (1969) Counselor, Career Development Center
B.S., Iowa State University
CONNETT, SUZANNE (1973), Counselor, Career Development Center
B.A., Mills College; M.A., Claremont Graduate School
COOPER, JOHN D. (1970), Professor of Earth Science
B.S., University of Michigan; M.A., Ph.D., The University of Texas
COOPERMAN, EDWARD L. (1967), Professor of Physics
B.S., Lehigh University; Ph.D., The Pennsylvania State University
COPP, CAROL M. (1965), Associate Professor of Sociology
B.A., M.A., University of Michigan; Ph.D., University of Colorado
COPPEL, LYNN M. (1968), Librarian; and Coordinator, Periodicals Section
B.S., University of Arizona; M.A., University of Denver; M.S., California State University, Fullerton
COPPOLINO, IDA S. (1960), Professor of Education, *Emeritus*
B.S., University of Utah; M.A., New York University; Ed. D., University of California, Los Angeles
COREY, GERALD F. (1972), Professor of Human Services
B.A., M.A., Loyola University of Los Angeles; Ed.D., University of Southern California
CORMAN, EUGENE J. (1966), Professor of Accounting
B.Sc., M.B.A., University of Santa Clara; C.P.A.; D.B.A., University of Southern California
COVERT, DOUGLAS C. (1981), Lecturer in Communications
B.S., University of Michigan; M.S., Ph.D., Michigan State University
COWIN, EILEEN F. (1975), Professor of Art
B.S., State University of New York College at New Paltz; M.S., Institute of Design, Chicago
COX, MIRIAM S. (1967), Professor of English, *Emeritus*
B.S., Utah State University; M.S., University of Idaho
COZBY, P. CHRISTOPHER (1972), Professor of Psychology; and Chair, Psychology Department
B.A., University of California, Riverside; Ph.D., University of Minnesota
CRABBS, JACK A., JR. (1973), Associate Professor of History
B.A., State University of Iowa; M.S.F.S., Georgetown University; Ph.D., University of Chicago
CRANE, DONALD B. (1976), Professor of Finance
B.A., California State University, Fullerton; M.B.A., D.B.A., University of Southern California

CRARY, DANIEL R. (1974), Associate Professor of Speech Communication
B.A., M.A., Ph.D., University of Kansas; B.D., Golden Gate Theological Seminary
CRIMMINS, MARY E. (1981), Senior Assistant Librarian; and Coordinator, School Curriculum and Textbook Center
Ed.B., Rhode Island College; M.L.S., University of Rhode Island; M.S.Ed., Northern Illinois University
CRONQUIST, JOHN (1967), Associate Professor of Philosophy
A.B., Duke University; A.M., Harvard University; Ph.D., Stanford University
CROW, WENDEL C. (1977), Associate Professor of Communications
B.S., Arkansas State University; M.S., Southern Illinois University; Ph.D., Southern Illinois University
CROWLEY, RONALD J. (1965), Professor of Physics
B.S., M.A., Ph.D., University of Southern California
CROY, HAZEL M. (1960), Professor of Education, *Emeritus*
B.A., M.A., University of Redlands; Ed.D., University of California, Los Angeles
CUMMINGS, FRANK E. (1982), Associate Dean, School of the Arts, and Professor of Art
B.A., California State University, Long Beach; M.A., California State University, Fullerton
CUMMINGS, SHERWOOD P. (1963), Professor of English, *Emeritus*
B.S., University of Illinois; M.A., Ph.D., University of Wisconsin
CURRAN, DARRYL J. (1967), Professor of Art
B.A., M.A., University of California, Los Angeles
CURRIE, MARY V. (1974), Admissions Counselor
B.A., M.S., California State University, Long Beach
CUSICK, JAMES W. (1961), Professor of Education; and Chair, Division of Teacher Education
B.S., Montana State College; M.A., Washington State University; Ph.D., University of Minnesota
DAIGLE, STEPHEN L. (1977), Academic Planning Analyst, Office of the Provost and Vice President, Academic Affairs
B.A., M.A., Louisiana State University; Ph.D., Indiana University
DANA, JACQUELINE (1978), Associate Professor of Mathematics
B.A., M.A., Washington State University; Ph.D., University of California, Riverside
DAVENPORT, CALVIN A. (1969), Professor of Microbiology
B.S., Virginia State College; M.S., Ph.D., Michigan State University
DAVIS, BARBARA E. (1960), Librarian
B.S., Carnegie Institute of Technology; B.Mus., University of Wisconsin; M.L.S., Carnegie Library School
DAVIS, MICHAEL J. (1981), Assistant Professor of Speech Communication
B.S., M.S., Utah State University; Ph.D., Wayne State University
DAY, DUANE L. (1977), Associate Vice President for Development and Community Relations
B.A., Wayne State University; M.Div., Andover Newton Theological School; D.D., Shorter College
DEAR, ROGER G. (1975), Associate Professor of Management Science
S.B., S.M., E.E., Massachusetts Institute of Technology; Ph.D., Massachusetts Institute of Technology
de GRAAF, LAWRENCE B. (1959), Professor of History
B.A., Occidental College; M.A., Ph.D., University of California, Los Angeles
de LAND, PAUL N. (1975), Associate Professor of Mathematics
B.A., Ph.D., University of California, San Diego
de RIOS, MARLENE D. (1969), Professor of Anthropology; and Acting Director, Faculty Research
B.A., Queens College; M.A., New York University; Ph.D., University of California, Riverside
DEL COMA, DOLORES A. (1981), Health Educator, Student Health and Counseling Center
B.A., M.A., California State University, Long Beach
DEMING, RICHARD L. (1977), Associate Professor of Chemistry
B.A., Carleton College; M.S., Ph.D., Northwestern University
DENNO, RAYMOND E. (1961), Professor of Education and Consultant in Audiovisual Communications, *Emeritus*
B.A., University of California, Santa Barbara; M.S., University of Southern California; Ed.D., University of California, Los Angeles
DEPEW, DAVID J. (1974), Associate Professor of Philosophy
B.A., St. Mary's College of California; M.A., Ph.D., University of California, San Diego
DETHLEFSEN, DOUGLAS G. (1981), Assistant Professor of Electrical Engineering
B.S., M.S., California Institute of Technology; Degree of Engineer, Stanford University; Ph.D., University of California, Los Angeles
DIAZ, MODESTO M. (1970), Professor of Spanish
B.A., Colby College; M.A., Ph.D., University of Illinois
DIEFENDERFER, A. JAMES (1978), Dean, School of Mathematics, Science and Engineering; and Professor of Chemistry
B.S., University of Pittsburgh; Ph.D., Massachusetts Institute of Technology
DIETZ, JAMES L. (1973), Professor of Economics
B.S., California State Polytechnic University, Pomona; M.A., Ph.D., University of California, Riverside
DIETZER, M'LOU (1972), Professor of Music
B.A., M.A., California State University, Los Angeles; D.M.A., University of Southern California
DIPPEL, GENE H. (1970), Director of Information Services
B.B.A., The University of Texas; M.S., Texas A&M University

DITTMANN-DJAKOVIC, ROGER R. (1964), Professor of Physics
B.A., University of California, Santa Barbara; M.S., University of Delaware; Ph.D., University of Southern California
DOANE, KENNETH R. (1960), Director of Institutional Research and Professor of Education, *Emeritus*
B.S., Wisconsin State College, La Crosse; M.S., Ph.D., University of Wisconsin
DONDIS, ERNEST H. (1966), Professor of Psychology
B.A., M.A., California State University, Long Beach; Ph.D., University of California, Berkeley
DONOGHUE, MILDRED R. (1962), Professor of Education and Reading
B.A., University of Michigan; M.A., University of Detroit; Ed.D., University of California, Los Angeles; J.D., Western State University, College of Law
DRUON, MICHELE V. (1980), Assistant Professor of French
M.A., University of Southern California; Ph.D. University of California, Los Angeles
DUANGPLOY, ORAPIN (1981), Associate Professor of Accounting
B.A., Stephens College, Missouri; M.S., Ph.D., University of Missouri
DUERR, EDWIN (1964), Professor of Theatre, *Emeritus*
B.A., University of California, Berkeley; M.A., Cornell University
DYAS, RONALD D. (1975), Associate Professor of Communications
B.S., Northern Illinois University; M.S., Indiana University; Ph.D., Ohio University
EARICK, ARTHUR D. (1960), Professor of Geography, *Emeritus*
B.A., Indiana University; M.A., Ph.D., University of Michigan
EBERSOLE, PETER D. (1967), Professor of Psychology
A.B., Swarthmore College; Ph.D., University of California, Los Angeles
EDMONDSON, BEN C. (1970), Professor of Management Science
B.S., Purdue University; M.B.A., Ph.D., Case Western Reserve University
EDWARDS, DOROTHY A. (1974), Assistant Director for Placement, Career Development Center
B.A., Howard University
EGBERT, RUSSELL J. (1968), Professor of Mathematics
B.A., University of California, Riverside; M.S., Ph.D., University of Arizona
EHARA-KUNI, MASAMI (1964), Professor of Theatre, *Emeritus*
B. Humanities, Bungakushi, Tokyo Imperial University; Ph.D., Friedrich Wilhelm University
EHMANN, GERHARD E. (1959), Professor of Education, *Emeritus*
B.A., Occidental College; M.A., Ed.D., University of California, Los Angeles
EILEFSON, LYNN (1982), Director of Athletics
B.A., University of Montana
EILERS, H. PETER, III (1973), Professor of Geography
B.A., M.A., San Jose State University; Ph.D., Oregon State University
ELENBAAS, JACK D. (1969), Professor of History
B.A., Hope College; M.A., Ph.D., Wayne State University
ELLIOTT, MARGARET E. (1976), Lecturer in Physical Education
B.S., University of California, Santa Barbara; M.S., State University of New York
EL-SADEN, MUNIR R. (1966), Professor of Engineering
B.Sc., University of Denver; M.S., Ph.D., University of Michigan
EMRY, ROBERT A. (1973), Associate Professor of Speech Communication
B.S., M.A., University of South Dakota; Ph.D., The University of Kansas
ENELL, GEORGE O. (1965), Professor of Speech Communication
B.A., Pomona College; B.D., Fuller Theological Seminary; M.A., Ph.D., University of Southern California
ENGSTROM, WAYNE N. (1971), Professor of Geography; and Chair, Geography Department
B.S., M.S., Illinois State University; Ph.D., University of Wisconsin
ERICKSON, JOHN R. (1979), Lecturer in Finance
A.B., University of California, Berkeley; Ph.D., University of California, Davis
ESCAMILLA, KATHY M. (1980), Lecturer in Teacher Education
B.A., University of Colorado; M.S., University of Kansas
ESCAMILLA, MANUEL (1975), Associate Professor in Education
B.A., Colorado State University; M.Ed., University of Antioch; Ph.D., University of Kansas
ETUE, GEORGE E. (1963), Associate Professor of History
B.A., Union College; M.A., Ph.D., University of California, Berkeley
EVJENTH, HENRY A. (1964), Professor of Art, Emeritus
B.A., M.A., California State University, Long Beach
EWING, ROBERT N. (1969), Associate Professor of Art
B.A., University of California, Los Angeles; M.A., Columbia University; Ph.D., University of California, Los Angeles
FACIONE, PETER A. (1979), Dean, School of Human Development and Community Service; and Professor of Education and Philosophy
A.B., Sacred Heart College; M.A., Ph.D., Michigan State University
FALCONER, DAVID R. (1981), Professor of Computer Science
B.A., University of Texas; M.S., Trinity University; Ph.D., University of Texas

FARBER, MICHAEL B. (1982), Lecturer in Chemistry
B.S., California Institute of Technology; Ph.D., Harvard University
FARNUM, NICHOLAS R. (1976), Associate Professor in Management Science
B.A., Ph.D., University of California, Irvine
FARRAND, WILLIAM A. (1979), Lecturer in Electrical Engineering
A.B., M.S., Ph.D., University of California, Los Angeles
FARRELL, ANGELA DELLA-VOLPE (1982), Lecturer in Linguistics
B.A., B.A., California State University, Fullerton
FARRIS, JAMES R. (1978), Assistant Professor of Criminal Justice
B.S., M.S., California State University, Long Beach; Ph.D., Claremont Graduate School
FASHEH, ISSA I. (1966), Associate Librarian; and Coordinator, Microforms Cataloguing Section
B.A., University of California, Los Angeles; M.S.L.S., University of Southern California; M.A., California State University, Fullerton
FECAROTTA, ROBERT G. (1970), Budget Officer
B.S., California State University, Long Beach; M.P.A., California State University, Fullerton
FEINGOLD, HELAINE, J. (1969), Professor of Sociology
B.S., University of Wisconsin; M.S., M.A., Ph.D., University of California, Los Angeles
FELDMAN, ROBERT S. (1964), Professor of History; and Coordinator, Russian and East European Area Studies Program
B.S., Illinois State University; M.A., Ph.D., Indiana University
FERARU, ANNE T. (1966), Professor of Political Science
B.A., Wilson College; M.A., Columbia University; Docteur de l'universite, University of Lyons
FIERMAN, MORTON C. (1963), Professor of Religious Studies, Emeritus
B.A., Case Western Reserve University; M.H.L., D.D., Hebrew Union College; M.A., Tulsa University; Ed.D., Arizona State University
FINLAYSON-PITTS, BARBARA J. (1974), Professor of Chemistry
B.Sc., Trent University; M.S., Ph.D., University of California, Riverside
FINN, DONALD (1981), Associate Professor of Theater
B.A., M.A., University of Minnesota
FISCHER, HERTA D. (1967), Librarian, *Emeritus*
B.A., University of Berlin; M.A., University of Denver
FISHER, JOHN R. (1982), Lecturer in Theater
B.A., State University of Iowa; M.F.A., M.A., University of California, Los Angeles
FLECKLES, GLADYS M. (1981), Director of Graduate Affairs
B.A., John Brown University; M.A., Wheaton College
FLEMING, MARY M. (1974), Professor in Accounting
B.S., M.B.A., University of California, Los Angeles; D.B.A., University of Southern California; C.P.A.; C.M.A.
FLINT, RANDELL S. (1980), Assistant Professor of Computer Science
B.S., M.S., University of California, Irvine
FLOCKEN, JOYCE M. (1969), Professor of Speech Communication
B.A., M.A., California State University, Long Beach; Ph.D., University of Southern California
FLORES, ALBERT (1982), Lecturer in Philosophy
B.A., Cleveland State University; M.A., Ph.D., Ohio State University
FORMUZIS, PETER (1976), Professor of Economics
B.A., Washington State University; Ph.D., Michigan State University
FOSTER, JULIAN F.S. (1963), Professor of Political Science; and Chair, Political Science Department
B.A., M.A., New College, Oxford; Ph.D., University of California, Los Angeles
FRANDSEN, CHRISTOPHER (1981), Assistant Professor of Theatre
B.A., St. Ambrose College; M.F.A., University of Montana
FRANKEL, DEXTRA L. (1969), Professor of Art
Special Art, California State University, Long Beach and Los Angeles Valley College
FRAZEE, CHARLES A. (1970), Professor of History
A.B., St. Meinrad College; M.A., Catholic University; Ph.D., Indiana University
FREDMAN, ALBERT J. (1975), Professor of Finance
B.S., San Diego State University; M.B.A., Ph.D., University of California, Los Angeles
FRELINGER, DAVID P. (1982), Director, Student Health and Counseling Center
D.O., College of Osteopathic Physicians and Surgeons; M.D., California College of Medicine, University of California, Irvine
FRIEL, JAMES O. (1973), Professor of Mathematics; and Chair, Mathematics Department
A.B., University of Michigan; M.A., Wayne State University; Ph.D., University of New Mexico
FRIEND, GEORGE L. (1964), Professor of English
B.A., Miami University; M.A., Ph.D., University of Illinois
FROMSON, DAVID R. (1977), Professor of Biology
B.A., Ph.D., University of California, Los Angeles
FUENTES, DAGOBERTO (1969), Professor of Chicano Studies
B.A., M.A., California State University, Los Angeles; Ph.D., University of Southern California
FUKASAWA, GEORGE T. (1974), Lecturer in Communications
University of California, Los Angeles

FULTON, M. WILLIAM (1965), Professor of Physical Education
B.A., M.A., California State University, Los Angeles; H.S.D., Indiana University
FUSZEK, RITA M. (1964), Professor of Music
B.M., Butler University; M.M., Michigan State University
GAFFEY, W. TRACY (1973), Professor of Educational Administration
B.A., University of Nevada; M.S., M.Ed., Ed.D., University of Southern California
GANNON, GERALD E. (1973) Professor of Mathematics
B.S., Rockhurst College; M.A., Kansas State Teachers College; Ed.D., University of Northern Colorado
GARBER, STEPHEN M. (1969), Associate Professor of English
A.B., A.M., Boston University; Ph.D., University of Illinois
GARD, DONALD H. (1967), Professor of Religious Studies; and Chair, Religious Studies Department
B.A., University of California, Berkeley; M.Div., Princeton Theological Seminary; M.A., Ph.D., Princeton University
GARDNER, BURGESS L. (1981), Associate Professor of Music
B.S., Jackson State University; M. Music Education, Roosevelt University; M.A., Ph.D., Michigan State University
GARMAN, JUDITH F. (1979), Head Softball Coach
B.A., University of Saskatchewan; M.A., University of California, Santa Barbara
GARRIDO, AUGUST E., JR. (1972), Head Baseball Coach
B.A., California State University, Fresno; M.A., California Polytechnic State University, San Luis Obispo
GARZA, S. ANA (1978), Assistant Professor of Teacher Education
B.S., Texas Women's University; M.L.A., Southern Methodist University; Ed.D., Texas A&I University
GASS, ROBERT H., JR. (1981), Lecturer in Speech Communication
B.S., California State Polytechnic University, Pomona; M.A., California State University, Fullerton
GETHAIGA, WACIRA (1969), Associate Professor of Afro-Ethnic Studies
B.A., Occidental College; M.A., Chapman College; Ph.D., Claremont Graduate School
GIANOS, PHILLIP L. (1971), Professor of Political Science
A.B., San Diego State University; Ph.D., University of California, Riverside
GILBERT, LEON J. (1970), Professor of German; and Chair, Foreign Languages and Literatures Department
B.A., M.A., Ph.D., University of Colorado
GILBERT, RICHARD C. (1963), Professor of Mathematics
B.A., Harvard College; Ph.D., University of California, Los Angeles
GILDE, JOSEPH M. (1965), Professor of English
B.A., Syracuse University; M.A., Ph.D., University of Chicago
GILFORD, ROSALIE (1977), Associate Professor of Sociology and Human Services; and Coordinator, Gerontology Program
B.A., University of California, Los Angeles; Ph.D., University of Southern California
GILLIS, JOHN W. (1978), Director, Career Development Center
A.B., M.A., University of Illinois; Ph.D., Purdue University
GILMAN, RICHARD (1972), Professor of Management
B.S., Yale University; M.B.A., D.B.A., University of Southern California
GILMORE, JAMES L. (1968), Professor of Education and Child Development, *Emeritus*
B.A., Wilamette University; M.S., University of Oregon; Ph.D., Stanford University
GOBRECHT, CHRISTIANNE G. (1979), Head Women's Basketball Coach
B.S., University of Southern California
GJERDINGEN, KATHLEEN M. (1981), Assistant Professor of Music
B.A., University of Minnesota; M.M., University of Colorado; Ed.D., Arizona State University
GOLAY, KEITH J. (1975), Associate Professor of Counseling
B.A., California State University, Northridge; M.S., California State University, Los Angeles; Ph.D., United States International University
GOLDIN, KENNETH D. (1972), Professor of Economics; and Associate Dean, School of Business Administration and Economics
A.B., Princeton University; Ph.D., Stanford University
GOMEZ-AMARO, ROSAMARIA (1982), Director of Affirmative Action
B.A., M.A., San Jose State University
GOOD, KAYE M. (1963), Professor of Speech Communication
B.A., Washington State College; M.A., California State University, Long Beach
GOODHUE-McWILLIAMS, KENNETH L. (1968), Professor of Zoology
B.S., Colorado State University; M.S., New Mexico State University; Ph.D., University of Indiana
GOTTFRIED, ALLEN W. (1978), Associate Professor of Psychology
B.A., Adelphi University; M.A., Ph.D., New School for Social Research
GOURDINE, ERNEST B. (1977), Director, Learning Resource Services
B.S., M.A., Oregon State University; Ph.D., Union Graduate School
GOWLER, WILLIAM P. (1979), Director of Relations with Schools and Colleges
B.A., Northwestern College; M.A., Southern Methodist University
GRAESSER, ARTHUR C. (1976), Associate Professor of Psychology
B.A., Florida State University; Ph.D., University of California, San Diego

GRANELL, LEE E. (1960), Professor of Speech Communication
B.A., San Diego State University; M.A., Ph.D., University of Southern California
GRAVES, LEVERN F. (1960), Professor of Economics
B.A., Ph.D., University of California, Berkeley
GRAY, ARLENE J. (1974), Associate Professor of Nursing
B.S., M.S., Loma Linda University
GRAY, J. JUSTIN (1961), Professor of Music, *Emeritus*
B.Mus., University of Michigan; M.Mus., Eastman School of Music, University of Rochester; D.Mus., University of Southern California
GRAY, MAURICE L. (1975), Associate Professor of Art
B.F.A., Wichita State University; M.A., University of Dallas; M.F.A., University of Colorado
GREENE, C. SCOTT (1979), Associate Professor of Marketing
B.S., Ohio State University; M.B.A., University of California, Los Angeles; Ph.D., University of North Carolina
GREENWOOD, JOAN V. (1963), Professor of English
B.A., Wellesley College; M.A., Ph.D., Stanford University
GREWAL, MOHINDER S. (1975), Associate Professor of Electrical Engineering; and Chair, Electrical Engineering Faculty
B.S., Punjab University; M.S., University of California, Los Angeles; M.S., University of Michigan; Ph.D., University of Southern California
GRODY, HARVEY P. (1969), Professor of Political Science
A.B., M.A., University of California, Berkeley; Ph.D., University of California, Los Angeles
GROSS, LYNNE S. (1981), Associate Professor of Communications
B.A., University of Pittsburgh; M.A., California State University, Long Beach; Ed.D., University of California, Los Angeles
GROTKE, LEANNE L. (1978), Associate Director of Athletics Department
B.S., Bowling Green University; M.S., Indiana University
GUERTNER, GARY L. (1974), Professor of Political Science
B.A., M.A., University of Arizona; Ph.D., Claremont Graduate School
GUMUCIO, DANTE L. (1980), Lecturer in Economics
B.A., Brigham Young University; M.S., University of Missouri
GUNAWARDANE, GAMINI D. (1982), Associate Professor of Management
B.S., University of Ceylon; M.B.A., Vidyodaya University of Ceylon; M.B.A., University of Chicago
GUOLO, LEO A. (1977), Lecturer in Management
B.E., University of Southern California; M.B.A., California State University, Fullerton
HAAKER, ANN M. (1965), Professor of English
B.A., The University of Texas; M.A., Claremont Graduate School; Ph.D., Shakespeare Institute, University of Birmingham, England
HAJ-MANOOCHEHRI, GHASEM (1981), Associate Professor of Management
B.A., Tehran Business College;: M.B.A., Ph.D., Louisana State University
HALL, JANE V. (1981), Associate Professor of Economics
B.A., University of Washington, Seattle; M.S., Ph.D., University of California, Berkeley
HALL, JEAN R. (1970), Professor of English
B.A., Pomona College; M.A., Ph.D., University of California, Riverside
HALLMAN, SUSAN (1977), Associate Professor of Theatre
B.F.A., M.F.A., University of Texas
HANAUER, ERIC S. (1966), Associate Professor of Physical Education
B.S., George Williams College; M.S., University of California, Los Angeles
HANES, TED L. (1969), Professor of Botany; and Director of the Fullerton Arboretum
B.A., M.S., Ph.D., University of California, Los Angeles
HANNES, GERALD P. (1971), Professor of Geography
B.S., Bowling Green State University; M.S., Ball State University; Ph.D., University of Illinois
HANNIGAN, PATRICIA S. (1977), Associate Professor of Counseling
B.A., M.Ed., Bowling Green State University; Ph.D., University of Toledo
HANSEN, ARTHUR A. (1966), Professor of History
B.A., M.A., Ph.D., University of California, Santa Barbara
HARDMAN, O. CLYDE (1974), Professor of Accounting
B.S., M.S., University of Utah; Ph.D., University of Illinois
HARDY, B. CARMON (1966), Professor of History
B.A., Washington State University; M.A., Brigham Young University; Ph.D., Wayne State University
HARMON, RONALD M. (1975), Associate Professor of Spanish
B.A., Arizona State University; M.A., University of California, Los Angeles; Ph.D., University of California, Los Angeles
HARMON, SU D. (1973), Professor of Music
B.M.E., M.M., North Texas State University
HARTMAN, MARY L. (1974), Lecturer in Communications
B.A., California State University, Fullerton; M.A., Chapman College
HARTSIG, BARBARA A. (1959), Professor of Education, *Emeritus*
B.A., Occidental College, M.S., University of Southern California; Ed.D., University of California, Los Angeles

HAYDEN, MARY H. (1965), Professor of English
B.A., California State University, Fullerton; M.A., University of California, Riverside; Ph.D., University of California, Irvine

HAYDEN, RICHARD A.† (1975), Physician, Student Health and Counseling Center
A.B., Fordham University; M.D., Long Island College of Medicine

HAYNER, HELEN L. (1965), Librarian
B.A., State University of New York, Albany; B.S. in L.S., Syracuse University

HAZLETT, THOMAS W. (1980), Lecturer in Economics
B.A., California State University, Northridge; M.A., University of California, Los Angeles

HEIDE, DOROTHY B. (1980), Associate Professor of Management; and Chair Management Department
B.S., University of California, Los Angeles; M.B.A., California State University, Fullerton; Ph.D., Claremont Graduate School

HEIN, RAYMOND (1961), Professor of Art, *Emeritus*
B.A., M.A., California State University, Long Beach

HEITZMAN, WILLIAM R. (1970), Professor of Management Science
B.S.M.E., Ohio Northern University; M.B.A., California State University, Fullerton; D.B.A., University of Southern California

HELIN, RONALD A. (1963), Professor of Geography
B.A., Ph.D., University of California, Los Angeles; M.A., Miami University

HEMASATARA, SOMBOONWAN (1982), Visiting Distinguished Professor of Management Science
B.A., Chulalongkorn University; M.B.A., D.B.A., Indiana University

HENGEVELD, DENNIS A. (1967), Associate Professor of English
B.A., Hope College; M.A., Ph.D., Rice University

HENRY, DONALD R. (1966), Professor of Theatre
B.A., State College of Iowa; M.A., University of Washington; Ph.D., University of Wisconsin

HERMAN, LINDA E. (1965), Librarian; and Coordinator, Special Collections Section
B.A., California State University, Los Angeles; M.L.S., University of California, Los Angeles

HERRON, LOIS S. (1959), Executive Secretary; and Director of Faculty Records, *Emeritus*
B.S., M.S., University of Illinois

HESS, DEAN W. (1970), Professor of Theatre
B.S., University of Wisconsin; M.A., California State University, Los Angeles; Ph.D., University of Southern California

HIEGEL, GENE A. (1966), Professor of Chemistry
B.S., University of Wisconsin, Milwaukee; Ph.D., University of Wisconsin, Madison

HIGHSMITH, DOUGLAS B. (1981), Assistant Librarian
B.A., M.S.L.S., University of Illinois; M.B.A., Northern Illinois University

HILL, SHIRLEY L. (1971), Professor of Education and Child Development
A.B., A.M., Stanford University; Ed.D., University of Arizona

HINDS, JOHN E. (1972), Lecturer in Accounting
B.S., M.B.A., California State University, Long Beach; C.P.A.

HIPOLITO, JANE W. (1968), Professor of English
A.B., University of California, Riverside; M.A., Ph.D., University of California, Los Angeles

HIRSCH, A. JAY (1966), Professor of Accounting
B.A., M.S., The Pennsylvania State University; Ph.D., University of Illinois

HOBBS, WILLIAM C. (1975), Associate Professor of Criminal Justice
B.A., Loyola University of Los Angeles; J.D., University of Southern California

HOBSON, WAYNE K. (1973), Associate Professor of American Studies
B.A., University of Oregon; M.A.T., Reed College; M.A., Ph.D., Stanford University

HODGES, ROBERT R. (1965), Professor of English
B.A., Valparaiso University; M.A., University of Missouri; Ph.D., Stanford University

HOLLAND, MICHAEL J. (1969), Associate Professor of English
B.A., M.A., California State University, Los Angeles; Ph.D., University of Denver

HOLLANDER, MARIANNE S. (1982), Physician, Student Health and Counseling Center
M.D., Albert-Ludwigs-Universitaet Medical School

HOLMES, EMMA E. (1961), Professor of Education and Child Development
B.A., Mount Holyoke College; M.A., University of Illinois; Ph.D., State University of Iowa

HOLMES, THORVALD (1976), Audiovisual Coordinator
Pasadena Playhouse; Martin School of Radio

HOLSTE, THOMAS J. (1971), Professor of Art
B.A., M.A., California State University, Fullerton; M.F.A., Claremont Graduate School

HORN, MICHAEL H. (1970), Professor of Zoology
B.S., Northeastern State College; M.S., University of Oklahoma; Ph.D., Harvard University

HOSHMAND, LISA LAI-SANG (1981), Assistant Professor of Counseling
B.A., University of Hong Kong; M.A., Ph.D., University of Hawaii

† Deceased, February 1983

HOUGH, GRANVILLE W. (1968), Professor of Management
B.S., United States Military Academy; M.S., University of Southern California; M.S., George Washington University; Ph.D., The American University
HOUSTON, RICHARD A. (1975), Associate Professor of Management
B.S., M.S., J.D., University of Arizona; C.P.A.
HUEBNER, WAYNE V. (1968), Professor of English
B.A., M.A., Ph.D., University of Minnesota
HUFFMAN, WILLIAM (1979), Chief, Public Safety
B.A., M.P.A., Golden Gate University
HUGHES, RONALD E. (1972), Associate Professor of Sociology; and Acting Coordinator, Core Student Affirmative Action
B.A., M.A., California State University, Fullerton; M.A., Ph.D., University of California, Los Angeles
HUGSTAD, PAUL S. (1973), Professor of Marketing
B.A., St. Olaf College; M.B.A., University of Arizona; Ph.D., University of Wisconsin
HUNT, EUGENE B. (1966), Professor of Electrical Engineering
B.S., South Dakota State College; M.S., Kansas State College; Ph.D., Purdue University
HUNTER, DORIAN (1982), Associate Professor of Art
B.F.A., University of Southern California; M.A., Mills College
HYINK, BERNARD L. (1960), Professor of Political Science; and Director, Center for Internships and Cooperative Education, *Emeritus*
B.A., University of Redlands; M.A., University of California, Berkeley; Ph.D., University of Southern California; L.H.D., University of Redlands
HYNES, TERRY M. (1975), Associate Professor of Communications
B.A., Regis College; M.A., Ph.D., University of Wisconsin
IBSON, JOHN D. (1972), Associate Professor of American Studies; and Chair, American Studies Department
A.B., University of California, Davis; M.A., Ph.D., Brandeis University
IHARA, CRAIG K. (1972), Professor of Philosophy; and Chair, Philosophy Department
A.B., Stanford University; M.A., Ph.D., University of California, Los Angeles
INABINETTE, NORMA BARTIN (1973), Professor of Reading; and Chair, Reading Department
B.A., M.A., State University of New York College at Fredonia; Ed.D., State University of New York at Buffalo
ISRAELY, HILLA K. (1972), Associate Professor of Sociology
B.A., The Hebrew University; M.A., Ph.D., University of California, Los Angeles
IVAN, ERMINDA A. (1981), Counselor, Career Development Center
B.A., Arizona State University; M.A., University of Arizona
IVORY, LEE R. (1981), Lecturer in Mathematics
B.S., M.S., Utah State University; Ph.D., University of Alabama
JACKSON, CARL E. (1974), Associate Professor of Afro-Ethnic Studies; and Chair, Afro-Ethnic Studies Department
B.A., California State Polytechnic University, Pomona; M.P.A., University of Southern California; Ph.D., U.S. International University
JACOBSON, EDWARD (1969), Counselor, Student Health and Counseling Service
B.A., M.S., California State University, Los Angeles; Ph.D., University of Southern California
JACOBSON, PERRY E., JR. (1963), Professor of Sociology
B.A., Hamline University; M.S., Iowa State University; Ph.D., University of Minnesota
JAMES, GEORGE R. (1968), Professor of Art; and Chair, Art Department
B.A., M.A., California State University, Long Beach
JANOS, LUDVIK (1982), Lecturer in Mathematics
M.S., Ph.D., Charles University, Prague, Czechoslovakia
JANOTA, HARVEY F. (1968), Professor of Chemistry
B.S., Texas Lutheran College; Ph.D., The University of Texas
JASKOSKI, HELEN M. (1970), Professor of English
B.A., Mount St. Mary's College; M.A., Ph.D., Stanford University
JASPER, LAWRENCE (1982), Assistant Professor of Theater
B.A., California State University, Sacramento; M.A., University of California, Santa Barbara; Ph.D., University of Kansas
JASSO, ARTURO F. (1973), Professor of Spanish
B.A., University of New Mexico; M.A., University of Kansas; Ph.D., University of Missouri
JEFFREY, HARRY P. (1969), Associate Professor of History
A.B., Dartmouth College; M.A., Ohio State University; Ph.D., Columbia University
JENKINS, JIMMIE E. II (1981), Assistant Professor of Art
B.F.A., Murray State University; M.F.A., Syracuse University
JENSEN, EVA C. (1969), Assistant Director, Career Development Center/Placement, *Emeritus*
B.S., University of California, Berkeley; M.P.A., Pepperdine University
JOESINK-MANDEVILLE, LEROY V. (1966), Professor of Anthropology
B.A., California State University, Sacramento; M.A., Mexico City College; Ph.D., Tulane University
JOHAN, KARA L. (1980), Lecturer in Accounting
B.A., University of California, Irvine; M.B.A., California State University, Fullerton

JOHNSON, CAROLYN E. (1972), Associate Professor of Communications and Acting Chair, Communications Department
B.A., Augsburg College; M.A., Ph.D., American University
JOHNSON, ELMER L. (1964), Professor of Physical Education, *Emeritus*
B.A., Moorhead State College; M.Ed., University of Minnesota; Ed.D., University of Southern California
JOHNSON, FRED M. (1971), Professor of Physics
B.S., City College of New York; M.A., Ph.D., Columbia University
JOHNSON, IDA M. (1964), Administrative Assistant to the President, *Emeritus*
A.A., Pasadena City College
JOHNSON, LARRY (1980), Lecturer in Art
B.A., M.A., California State University, Fullerton
JOHNSON, RAYNOLDS (1961), Associate Professor of Communications, *Emeritus*
B.A., California State University, Los Angeles; M.A., Stanford University
JOHNSON, ROBIN E. (1980), Assistant Professor of Theatre
B.A., University of California, Santa Barbara; M.F.A., University of Utah
JOHNSON, THOMAS W. (1981), Professor of Management
B.S., Valparaiso University, Indiana; M.A., Ph.D., University of Illinois
JOHNSON, WYNOAH L. (1971), Associate Director of Financial Aid
B.A., California State University, Los Angeles; M.A., California State University, Fullerton
JONES, C. EUGENE, JR. (1969), Professor of Botany
B.S., Ohio University; Ph.D., Indiana University
JONES, ROBERT M. (1973), Lecturer in Marketing
B.A., M.B.A., University of Southern California
JOSEPH, ROGER (1974), Professor of Anthropology; Chair, Anthropology Department; and Coordinator, M.A. in Social Sciences Program
B.A., University of Nevada; M.A., Ph.D., University of California, Los Angeles
JOSEPHSON, NORS S. (1975), Associate Professor of Music
B.A., University of California, Riverside; M.A., Ph.D., University of California, Berkeley
KACENA, CAROLYN (1982), Associate University Librarian
B.A., University of Northern Iowa; M.S.L.S., Case Western Reserve University; M.S., University of Arizona
KAHRS, KARL H. (1969), Professor of Political Science
Diplom-Kaufmann, University of Hamburg; M.A., Ph.D., University of California, Santa Barbara
KALIR, JOSEPH (1970), Professor of Religious Studies
Baccalaureate, Hebrew University; Ph.D., University of Wuersburg
KALISH, LIONEL, III (1972), Professor of Economics
B.A., Ph.D., Washington University; M.A., Northwestern University
KAMMULA, KRISHNA M. (1980), Lecturer in Mechanical Engineering
B.S., Kakinada Engineering College Andhra University, India; M.S., Indian Institute of Science, India; M.S., Ph.D., Virginia Polytechnic Institute
KANDEL, JUDITH S. (1972), Professor of Biology
B.A., Brooklyn College; Ph.D., University of California, Los Angeles
KANE, PAUL W. (1968), Professor of Education
A.B., Clark University; M.A., University of Wyoming; Ed.D., University of Southern California
KANNE, GRETCHEN (1975), Associate Professor of Theatre
A.B., M.A., University of Southern California
KAPLAN, DONALD E. (1964), Professor of Speech Communication, *Emeritus*
B.A., University of California, Los Angeles; M.A., California State University, Long Beach
KARES, GLADYS M. (1978), Associate Professor of Theatre
B.A., California State University, San Francisco; M.A., University of California, Los Angeles
KARSON, BURTON L. (1965), Professor of Music
B.A., M.A., D.M.A., University of Southern California
KASHOFF, SHIRLEY G. (1976), Counselor, Student Health and Counseling Service
B.A., M.A., Temple University; Ph.D., United States International University at San Diego
KATZ, DARRYL (1981), Associate Professor of Mathematics
B.A., M.A., M.A., University of Michigan; Ph.D., University of Southern California
KATZ, FRED (1968), Professor of Anthropology, *Emeritus*
Diploma, National Orchestral Society, Carnegie Hall
KAWAKAMI, DANIEL T. (1967), Counselor, Career Development Center
A.B., Washington University; M.A., University of Hawaii; Ph.D., Columbia University Teachers College
KAYE, ALAN S. (1971), Professor of Linguistics, Arabic and Hebrew; and Director, Laboratory of Phonetic Research
B.A., University of California, Los Angeles; M.A., Ph.D., University of California, Berkeley
KEATING, JERRY J. (1967), Director of Public Affairs
A.B., California State University, Sacramento
KEE, DANIEL W. (1980), Associate Professor of Psychology
A.B., M.A., Ph.D., University of California, Berkeley
KEELE, LUCY A. (1967), Professor of Speech Communication; and Director of Forensics
B.A., M.A., Ph.D., University of Oregon

KEIRSEY, DAVID W. (1971), Professor of Counseling, *Emeritus*
B.A., Pomona College; M.A., Ph.D., Claremont Graduate School
KEITHAHN, MARGARET L. (1977), Librarian; and Chair, Processing Services Department
B.A., M.L.S., University of California, Los Angeles
KELLER, ALVIN J. (1966), Professor of Theatre; and Chair, Theatre Department
B.A., University of California, Los Angeles; M.F.A., Yale University; Ph.D., Stanford University
KEMMERLY, JACK E. (1968), Professor of Electrical Engineering
B.E.E., Catholic University of America; M.S., University of Denver; Ph.D., Purdue University
KENNY, DOROTHEA de FRANCE (1967), Associate Professor of English
B.A., M.A., California State University, Los Angeles; Ph.D., University of California, Los Angeles
KENT, TERRY D. (1981), Lecturer in Music
B.A., M.A., California State University, Los Angeles
KEOUGH, MARGARET A. (1977), Lecturer in Physical Education
B.S., State University at Brockport
KERAN, DONALD W. (1961), Librarian; and Chair, Bibliographic Services Department
B.A., University of California, Los Angeles; M.S.L.S., University of Southern California
KERCIU, G. RAY (1963), Professor of Art
B.A., Michigan State University; M.F.A., Cranbrook Academy of Art
KETTERINGHAM, WILLIAM J. (1966), Associate Professor of Geography; and Coordinator, Latin American Studies Program
B.A., Ph.D., University of California, Los Angeles, M.A., Stanford University
KILKER, DOROTHY K. (1965), Professor of English
B.A., M.A., California State University, Fullerton; Ph.D., University of Southern California
KIM, KUMSUN (1968), Senior Assistant Librarian; and Coordinator, Series Cataloguing Section
B.A., Ewha Woman's University; M.L.S., University of Oregon
KIM, SUNG-CHUN (1982), Assistant Professor of Electrical Engineering
B.S., Seoul National University; M.S., Ph.D., Wayne State University
KING, GEOFFREY R. (1973), Professor of Management
B.S., M.S., California State University, Los Angeles; M.A., Ph.D., University of Southern California
KIRAITHE, JACQUELINE T. (1971), Professor of Spanish
B.A., M.A., California State University, Sacramento; M.A., Ph.D., University of California, Los Angeles
KITSELMAN, KURT P. (1981), Assistant Professor of Speech Communication
B.S., University of California, Irvine; M.A., California State University, Fullerton; Ph.D., University of California, Santa Barbara, San Francisco
KLAMMER, THOMAS P. (1971), Professor of English; and Chair, English and Comparative Literature Department
B.A., Concordia College; M.A., Ph.D., University of Michigan
KLASSEN, VURYL J. (1965), Professor of Mathematics
B.A., Butler University; M.S., Ph.D., University of Arizona
KLASSEN, VYRON M. (1965), Professor of Mathematics
B.A., Butler University; M.S., Ph.D., Virginia Polytechnic Institute
KLEIN, SIDNEY (1968), Professor of Economics
B.S., University of California, Los Angeles; A.B., University of Southern California; Ph.D., Columbia University
KLEINER, BRIAN H. (1977), Associate Professor of Management
B.S., Drexel University; M.B.A., Ph.D., University of California, Los Angeles
KLINE, RUTH C. (1972), Associate Professor of Art
B.A., Sarah Lawrence College; M.A., Mills College; Ph.D., University of California, Los Angeles
KLINE, WALTER D. (1963), Professor of Spanish
B.A., Indiana State Teachers College; M.A., University of Wisconsin; Ph.D., University of Michigan
KNOX, NAOMI DIETZ (1960), Professor of Art
B.S., Whitworth College; M.A., Teachers College, Columbia University
KOCH, ROBERT A. (1976), Associate Professor of Biological Science
B.S., Eckerd College; M.S., Ph.D., Florida State University
KOEHLER, MARY A. (1970), Editor, Continuum and Titan Alumni News; and Assistant Professor of Communications
B.A., M.A., California State University, Fullerton
KOON, WILLIAM H. (1970), Professor of English
A.B., Belmont Abbey College; M.A., Appalachian State College; Ph.D., University of Georgia
KRATZERT, MONA Y. (1969), Associate Librarian; and Coordinator, Bibliographic Section
B.A., M.S.L.S., University of Southern California
KRAVITZ, BERNARD (1961), Professor of Education; and Coordinator, Elementary Education
B.A., University of Southern California; M.A., Ed.D., University of California, Berkeley
KREINER, JESA H. (1969), Professor of Mechanical Engineering
Diplome, University of Belgrade; Ph.D., Oklahoma State University; P.E.
KRETER, LEO E. (1968), Professor of Music
B.A., Carleton College; M.A., D.M.A., Cornell University
KRISHNAMURTHY, SUNDARAM (1968), Associate Professor of Mechanical Engineering
B.Sc., University of Ceylon; M.S., Ph.D., Rensselaer Polytechnic Institute

KUMAR, RAJENDRA (1981), Assistant Professor of Electrical Engineering
B.Sc.I., Meerut College, Meerut, India; B.T., M.T., Indian Institute of Technology, Kanpur, India; Ph.D., University of Newcastle, Australia
KUNG, MABEL (1981), Associate Professor of Management Science
B.A., College of Mt. St. Vincent; Ph.D., University of Texas
KUNSELMAN, JOAN D. (1981), Senior Assistant Librarian; and Coordinator, Periodical Section
A.B., Vassar College; M.M., University of Maryland; M.L.S., Ph.D., Louisiana State University, Baton Rouge
KUPPER, SAMUEL Y. (1973), Associate Professor of History
B.A., California State University, Los Angeles; M.A., Ph.D., University of Michigan
KURKJIAN, MICHAEL (1976), Associate Professor of Music
B.M., Washington University; M.M., University of Illinois
KUSHELL, ELLIOTT N. (1977), Associate Professor of Management
B.A., California State University, Long Beach; A.B.D., M.A., Ph.D., University of Hawaii
KWON, YOUNG DUCK (1969), Professor of Electrical Engineering
B.S., M.S., Seoul National University; Ph.D., University of New Mexico
LABRADO, LAWRENCE R. (1971), Coordinator, School Relations and Admissions, Educational Opportunity Program
B.A., California State University, Fullerton
LACKEY, PAT N. (1966), Associate Professor of Sociology
A.B., Southwest Missouri State College; M.A., Ph.D., University of Pittsburgh
LAFKY, JOHN D. (1963), Professor of Economics
B.S., New Mexico State University; M.A., Ph.D., The University of Texas
LAGERBERG, DONALD E. (1968), Professor of Art
A.B., M.A., University of California, Los Angeles
LAKE, ERNEST G. (1966), Professor of Education, *Emeritus*
B.A., Montana University; M.Ed., Ed.D., Harvard University
LAKE, JEANETTE, M. (1964) Librarian, *Emeritus*
B.A., Mount Holyoke College, M.S.L.S., University of Southern California
LAL, RAM (1981), Associate Professor of Management Science
B.S.c., University of Delhi, India; M.Sc., Meerut University, Meerut, India; M.S., North Texas State University; M.S., Ph.D., Southern Methodist University, Dallas, Texas
LAMBERT, CHARLES C. (1970), Professor of Zoology
B.A., M.S., San Diego State University, Ph.D., University of Washington
LANCEY, TIMOTHY W. (1973), Professor of Mechanical Engineering
B.S.Eng., California State University, Los Angeles; M.S.M.E., Ph.D., University of Southern California
LANDON, JOSEPH W. (1960), Professor of Music, *Emeritus*
B.A., Occidental College; M.A., Claremont Graduate School; Ed.D., University of Southern California
LANGE, IRENE L. (1965), Professor of Marketing; and Chair, Marketing Department
B.S., M.S., Ph.D., University of Illinois
LANGSDORF, WILLIAM B. (1959), President; and Professor of History, *Emeritus*
B.A., M.A., Occidental College; Ph.D., University of California, Berkeley
LANIER, MARYANNA C. (1970) Associate Professor of Economics
B.A., University of Texas; M.A., Ph.D., University of California, Riverside
LASSWELL, SUSAN J. (1977), Counselor, Career Development Center
A.B., University of California, Irvine; M.A., Chapman College
LAU, WILLIAM W. (1976), Professor of Management Science
B.S., City College of New York; M.S., New York University; Ph.D., New York University
LAWRENCE, JOHN A., JR. (1973), Professor of Management Science; and Chair, Management Science Department
B.S., Cornell University; M.S., Ph.D., University of California, Berkeley
LAY, L. CLARK (1960), Professor of Mathematics Education, *Emeritus*
B.S., Aurora College; M.A., University of Southern California; Ed.D., University of California, Los Angeles
LeBOEUF, WILLIAM G. (1976), Physician, Student Health and Counseling Center
B.A., University of Missouri; M.D., University of Missouri School of Medicine
LEDER, HANS H. (1965), Professor of Anthropology
B.A., New York University; M.A., Ph.D., Stanford University
LEE, LOUISE G. (1964), Director of International Education and Exchange
B.S., University of Wisconsin; M.S., California State University, Fullerton; Ed.D., University of Southern California
LEE, TSO-HWA (1970), Professor of Geography
B.A., National Taiwan Normal University; M.A., Ph.D., Southern Illinois University
LEIVICI, DIMITRIE-JOHANN (1982), Lecturer in Music
University Diploma, Hochschule fuer Musik und Darstellende Kunst Wien, Vienna
LEMMON, ROBERT A. (1963), Professor of Education
B.S., M.A., Ohio State University; Ed.D., University of Northern Colorado
LEONARD, WILLIAM A. (1972), Professor of Mathematics
B.A., Valparaiso University; M.A., Indiana State University; Ed. D., University of Northern Colorado

LEWIS, JANICE (1981), Lecturer in Reading
B.A., Brigham Young University; M.S., California State University, Fullerton; Ph.D., Claremont Graduate School
LIN, CHAO Y. (1978), Associate Professor of Civil Engineering
B.S., Cheng Kung University; M.S., Georgia Institute of Technology; Ph.D., North Carolina State University
LINDER, MARIA C. (1977), Professor of Chemistry
B.A., Vassar College; Ph.D., Harvard University
LINDLEY, RICHARD H. (1965), Professor of Psychology
B.A., Ph.D., University of California, Berkeley
LINDQUIST, CAROL U. (1974), Associate Professor of Psychology
B.A., Miami University; M.A., Ph.D., University of Illinois
LIPPA, RICHARD A. (1976), Associate Professor of Psychology
B.A., University of Pennsylvania; Ph.D., Stanford University
LITTLE, ARAMINTA A. (1968), Professor of Dance
B.S., M.F.A., University of North Carolina; Ph.D., University of Southern California
LITTLE, DAVID T. (1982), Lecturer in Communications
B.A., University of Washington; M.S., University of Oregon
LIVERPOOL, J. DOUGLAS (1973), Coordinator, Special Projects and Counseling, Handicapped Student Services
B.S., California State University, Fullerton; M.A., Chapman College
LLOYD, JERRY W. (1970), Athletic Trainer for Men
B.A., California State University, Long Beach; M.S., California State University, Fullerton
LONG, EMMETT T. (1959), Professor of Speech Communication
B.A., Pepperdine College; B.A., M.A., University of California, Berkeley; Ed.D., University of Southern California
LONG, MICHELE, L. (1975), Counselor, Career Development Center
B.A., Queens College; M.A., University of Illinois
LONG, STEWART L. (1973), Associate Professor of Economics
A.B., Hunter College, City University of New York; M.A., Ph.D., University of Illinois
LUCIUS, MILTON C. (1977) Lecturer in Counseling
A.B., California State University, Los Angeles; M.S., California State University, Fullerton
LYNN, ARTHUR W. (1962), Counselor, Student Health and Counseling Service, *Emeritus*
B.A., University of Redlands; M.A., Claremont Graduate School; Ed.D., University of Southern California
LYNN, JOANNE L. (1966), Professor of English
B.A., Pomona College; M.A., California State University, Fullerton; Ph.D., University of California, Irvine
LYSTRA, KAREN A. (1973), Associate Professor of American Studies
B.A., University of the Pacific; M.A., Ph.D., Case Western Reserve University
MAAS, GARY L. (1970), Associate Professor of Music
B.M., M.M., University of Wisconsin; Ph.D., University of North Carolina
MacKENZIE, ALEXANDER C. (1982), Associate Professor of Theater
B.A., John Carroll University; M.A., Florida State University, Tallahassee; Ph.D., Case Western Reserve University
MacKENZIE, CLINTON D. (1970), Professor of Art
B.S., Macalester College; M.F.A., Cranbrook Academy of Art
MAHER, THOMAS E. (1977), Associate Professor of Management
A.B., J.D., University of Detroit
MAHLOUDJI, FARHAD (1982), Lecturer in Economics
B.S., Carnegie Mellon University, Pittsburg; M.A., University of Pittsburg; Ph.D., Duke University
MALER, NORBERT E. (1981), Lecturer in Accounting
B.A., California State University, Fullerton; M.B.A., California State University, Long Beach
MALINOWSKI, THERESA M. (1982), Assistant Librarian
B.A., State University of New York, Buffalo; M.L.S., State University of New York, Geneseo
MALONEY, NEIL J. (1969), Professor of Earth Science
B.A., California State University, Fresno; M.S., Ph.D., Oregon State University
MANDEL, JUDY M. (1976), Associate Director of Public Affairs; and Director of Public Information
B.A., University of Minnesota
MANLEY, BRYN J. (1982), Lecturer in Art
National Diploma in Design, Hornsey College of Art, London, England; Associate of the Royal College of Art, The Royal College of Art, London, England
MARAM, SHELDON L. (1973), Professor of History
B.A., M.A., University of California, Los Angeles; Ph.D., University of California, Santa Barbara
MARCH, LESTER W. (1969), Professor of Special Education
B.S., Colorado State University; M.S., Ed.D., University of Southern California
MARINI, FRANK (1980), Provost and Vice President for Academic Affairs; and Professor of Political Science
B.A., M.A., Arizona State University; Ph.D., University of California, Berkeley
MARKS, MITCHELL LEE (1981), Lecturer in Management
A.B., University of California, Santa Cruz; M.A., Ph.D., University of Michigan, Ann Arbor
MARLEY, GERALD C. (1967), Professor of Mathematics
B.S., Eastern New Mexico University; M.S., Texas Technological College; Ph.D., University of Arizona
MAROUF, ADEL R. (1980), Assistant Professor of Electrical Engineering
B.S.E.E., M.S.E.E., Texas A&M University; Ph.D., University of Texas

MARTINEZ, BERNARD L. (1973), Director, Educational Opportunity Program
B.A., University of Redlands; M.A., Whittier College
MASON, JOHN B. (1960), Professor of Political Science, *Emeritus*
B.A., Butler University; M.A., Ph.D., University of Wisconsin
MASTROIANNI, GEORGE A. (1968), Professor of Communications
B.A., The Pennsylvania State University; M.S., Ph.D., Syracuse University
MATHEWS, JOHN H. (1969), Professor of Mathematics
B.S., Portland State College; M.A., Ph.D., Michigan State University
MATHIEU, G. BORDING (1960), Professor of French and German
B.S., M.A., Ph.D., Columbia University
MATSUSHIMA, NOREEN (1981), Lecturer in Human Services
B.A., M.S.W., University of Hawaii, Manoa; D.S.W., University of California, Los Angeles
MAVITY, JAMES T. (1969), Director of Operations, Extended Education
B.A., California State University, Fullerton; M.P.A., University of Southern California; J.D., Western State University, College of Law
MAXWELL, J. WILLIAM (1960), Professor of Communications, *Emeritus*
B.A., University of Southern California; M.S., Columbia University; Ph.D., University of Iowa
MAY, RUTH G. (1972) Associate Professor of Reading
A.B., Vassar College; M.S., California State University, Fullerton; Ph.D., Claremont Graduate School
McCARTHY, MILES D. (1959), Professor of Biology; and Coordinator, Health Professions
B.S., West Chester State College; Ph.D., The University of Pennsylvania
McCARTY, RICHARD E. (1980), Lecturer in Management
B.S., Colorado State University; M.Ed., Whitworth College; Ph.D., United States International University
McCLANAHAN, LONNIE L., JR. (1966), Professor of Biology
B.S., University of Redlands; Ph.D., University of California, Riverside
McCLOUD, LELAND W. (1962), Professor of Management and Management Science
B.S., M.S., North Texas University; Ph.D., The University of Texas
McCOMB, STUART F. (1959), Executive Dean; and Professor of Education, *Emeritus*
B.A., Arizona State University; M.S., Ed.D., University of Southern California; LL.D., Upper Iowa University
McCORMICK, EDWARD M. (1980), Associate Professor in Computer Science
B.S., M.S., Pittsburg State University; Ph.D., American University
McCULLOUGH, EDITH L. (1966), Professor of Education
B.A., Colorado State College; M.B.E., University of Colorado; Ph.D., University of Southern California
McFARLAND, RICHARD A. (1968), Professor of Psychology
A.B., University of California, Berkeley; Ph.D., University of California, Los Angeles
McGARRY, EUGENE L. (1962), Professor of Education
B.A., Cornell College; M.A., Northwestern University; Ph.D., State University of Iowa
McKEE, KENT E. (1964), Professor of Management
B.B.A., University of Toledo; M.B.A., Michigan State University; LL.B., University of Michigan; C.P.A.
McKEEVER, LINDA C. (1979), Assistant Professor of Nursing
B.S.N., California State University, Long Beach; M.S.N., California State University, Los Angeles
McLAREN, ROBERT B. (1967), Professor of Teacher Education and Child Development
A.B., Park College; B.D., McCormick Theological Seminary; M.A., University of Houston; Ph.D., University of Southern California
McNELLY, WILLIS E. (1961), Professor of English
B.A., Central YMCA College; M.A., Loyola University, Chicago; Ph.D., Northwestern University
McPEEK, ROBERT E. (1975), Accounting Officer
B.A., Transylvania University
McQUARN, GEORGE H. (1979), Head Basketball Coach
B.A., University of California, Los Angeles
McVEIGH, LYNNE K. (1967), Director of Housing and Academic Appeals
B.A., California State University, Fullerton
MELCHER, TRINI U. (1976), Professor of Accounting; and Chair, Accounting Department
B.S., Arizona State University; M.B.A., Kent State University; Ph.D., Arizona State University
MEND, MICHAEL R. (1965), Professor of Sociology
B.A., M.A., Ph.D., University of California, Los Angeles
MENDOZA, SAMUEL M. (1969), Counselor, Career Development Center
B.A., California State University, Fullerton
MERRIFIELD, DORIS F. (1965), Professor of German
M.A., Ph.D., The University of Texas
MICHAELS, ROBERT J. (1968), Professor of Economics
A.B., University of Chicago; Ph.D., University of California, Los Angeles
MICHALOPOULOS, DEMETRIOS A. (1971), Professor of Computer Science
B.S., M.S., North Carolina State University; Ph.D., University of Southern California
MILLER, FREDERIC H. (1969), Professor of History
B.A., M.A., Ph.D., University of Minnesota
MILLER, PAUL K. (1975), Director, Handicapped Student Services
B.A., Grace College; M.Ed., Kent State University

MILLER, ROBERT L. C. (1974), Professor of Accounting
B.Comm., University of Saskatchewan; M.B.A., Ph.D., University of Oregon
MILLER, RONALD R. (1967), Associate Professor of Mathematics
B.S., M.S., Texas Technological College; Ph.D., University of Arizona
MILLER, TODD L. (1982), Lecturer in Music
B.A., M.Mus., University of Southern California
MILLS, R. DEAN, Ph.D. (1979), Associate Professor Communications
B.A., University of Iowa; A.M., University of Michigan; Ph.D., University of Illinois
MILO, ALBERT J. (1979), Assistant Librarian
A.B., Stanford University; A.M.L.S., University of Michigan
MINOR, BENTON L. (1967), Professor of Music
B.A., University of California, Los Angeles; M.A., Claremont Graduate School
MITCHELL, SALLIE (1975), Associate Professor of Theatre
A.B., Midland College; M.Ed., Northern Illinois University; M.A., University of Illinois; Ph.D., University of Illinois
MLYNARYK, PETER M. (1967), Professor of Finance
B.S., Massachusetts Institute of Technology; M.B.A., D.B.A., University of Southern California
MOFFET, J. BRYAN (1968), Professor of Teacher Education
A.B., M.A., Miami University; Ed.D., University of California, Los Angeles
MOLINA, NORMA M. (1978), Associate Professor of Teacher Education
B.S., Florida State University; M.Ed., Ed.D., University of Houston
MONTANA, ANDREW F. (1963), Professor of Chemistry
B.S., Seattle Pacific College; Ph.D., University of Washington
MOOERS, NONA C (1982), Lecture in Accounting
B.A., M.S.T., California State University, Fullerton
MOORE, JEREMIAH W. (1973), Assistant Director, Guidance, Educational Opportunity Program
B.A., Fisk University; M.S., University of Southern California
MOREMEN, IRIS O. (1968), Physician, Student Health and Counseling Center
M.D., B.S., University of London
MORRIS, THOMAS D. (1964), Director of Financial Aid
B.A., M.Ed., Gonzaga University
MORROW, CAROL A. (1968), Supervisor of Laboratory, Student Health Center
B.A., University of California, Los Angeles
MORTON, HOWARD K. (1965), Research Coordinator, Testing and Research
B.A., M.A., University of California, Los Angeles
MOSMANN, CHARLES J. (1977), Director of Academic Data Systems and Institutional Research
B.A., Princeton University; M.A., Ph.D., Columbia University
MUELLER, FREDERICK W. (1974), Lecturer in Management Science
B.S., Pennsylvania State College; M.S.; Case Western Reserve University
MUFFATTI, S. TODD (1970), Professor of Theatre
B.F.A., Carnegie-Mellon Institute; M.A., University of Washington
MURPHY, EUGENE V. (1980), Head Football Coach
B.S., M.S.Ed., M. Ed., University of North Dakota
MURRAY, STEVEN N. (1971), Professor of Biological Science; and Chair, Biological Science Department
B.A., M.A., University of California, Santa Barbara; Ph.D., University of California, Irvine
MURUFAS, RODERIC (1982), Lecturer in Mathematics
B.S., M.S., California State Polytechnic University, Pomona; Ph.D., University of California, Los Angeles
MYERS, ARLENE (1975), Director of Nurses, Student Health Service
B.S., California State University, Fullerton
NAGEL, GLENN M. (1972), Professor of Chemistry
B.A., Knox College; Ph.D., University of Illinois College of Medicine
NAGER, NORMAN R. (1976), Associate Professor of Communications
B.A., M.A., Ph.D. University of Southern California
NAMASAKA, BOAZ N. (1971), Associate Professor of Afro-Ethnic Studies
B.A., Westmont College; M.A., Ph.D., Claremont Graduate School
NANES, ROGER (1972), Professor of Physics
B.A., Harpur College, State University of New York at Binghamton; Ph.D., The Johns Hopkins University
NANJUNDAPPA, G. (1972), Associate Professor of Sociology
B.A., First Grade College; M.A., Karnatak University; Ph.D., The University of Georgia
NASH, KENNETH M. (1974), Counselor, Student Health and Counseling Service
B.A., M.C., Ph.D., Arizona State University
NAVARICK, DOUGLAS J. (1973), Professor of Psychology
B.A., Harpur College, State University of New York at Binghamton; M.S., Rutgers University; Ph.D., University of California, San Diego
NEILSON, KEITH T. (1969), Professor of English
A.B., Princeton University; M.A., Ph.D., University of Chicago
NELSON, CALVIN C. (1967), Professor of Education; and Chair, Special Education Department
B.A., University of California, Berkeley; M.S., University of Miami; M.A., Ph.D., University of Oregon

NELSON, MAX (1965), Professor of Speech Communication
B.A., University of Akron; M.A., Ph.D., University of Michigan
NEWPORT, JOHN F. (1980), Assistant Professor of Physical Education
B.S., Long Island University; M.H.A., University of Michigan; Dr. P.H., University of California, Los Angeles
NEWTON, RAE R. (1972), Professor of Sociology
B.A., M.A., Ph.D., University of California, Santa Barbara
NICHOLS, E. RAY, JR. (1966), Professor of Speech Communication, *Emeritus*
B.A., M.A., Cornell University; Ph.D., University of Southern California
NICHOLS, JOHN R. (1965), Professor of Finance
B.A., Baldwin-Wallace College; M.A., Ph.D., Ohio State University
NICHOLLS, WILLIAM D. (1974), Lecturer in Music
B.A., California State University, Long Beach; M.S., Julliard School, New York; D.M.A., University of Miami
NORTHROP, ALANA (1977), Lecturer in Political Science
B.A., Smith College, M.A., Ph.D., University of Chicago
NUDD, T. ROGER (1966), Dean of Student Services
B.S., M.S., University of Oregon; Ed.D., University of California, Los Angeles
NYCUM, RUTH A. (1967), Librarian
B.A., Kalamazoo College; M.S.L.S., University of Southern California; M.A., California State University, Fullerton
OAKS, PRISCILLA (1969), Associate Professor of English
B.A., Radcliffe College; M.A., Ph.D., University of California, Los Angeles
OBLER, PAUL C. (1962), Professor of English
B.A., American University; M.A., Columbia University; M.S., University of Southern California; Ph.D., Rutgers University
O'BRIEN, NOREEN P. (1980), Lecturer in Nursing
B.S., San Diego State College; M.S.N., University of California, Los Angeles
O'CONNOR, DENNIS J. (1971), Professor of Finance
B.A., Fairleigh Dickinson University; M.A., Ph.D., New School for Social Research
OH, TAI K. (1973), Professor of Management
B.A., Seijo University; M.A., Northern Illinois University; M.A.L.S., Ph.D., University of Wisconsin
OLEYAR, RITA D. (1966), Professor of English, *Emeritus*
A.B., Seton Hill College; M.A., California State University, Fullerton; Ph.D., University of California, Irvine
OLMSTED, JOHN A. III(1977), Professor of Chemistry; and Acting Associate Dean, School of Mathematics, Science and Engineering
B.S., Carnegie Institute of Technology; Ph.D., University of California, Berkeley
OLSEN, JOHN W. (1961), Professor of Art, *Emeritus*
B.Ed., University of California, Los Angeles; M.A., Ed.D., Columbia University
OLSEN, ROBERT M. (1970), Professor of Marketing
B.A., Pomona College; M.B.A., Stanford University; Ph.D., University of California, Berkeley
OMALEV, ALEXANDER (1960), Professor of Physical Education
B.A., M.S., University of Southern California
ONORATO, MICHAEL P. (1965), Professor of History; and Director, Academic Advisement
B.S., St. Peter's College; M.A., Ph.D., Georgetown University
ORLEANS, MYRON (1976), Associate Professor of Sociology and Human Services
B.A., City College of City University of New York; M.A., Ph.D., The New School for Social Research, New York
ORTEGA, ADOLFO A. (1975), Professor of Chicano Studies
B.A., Loyola University, Los Angeles; M.A., Catholic University of America; Ph.D., University of Southern California
ORTIZ, STEPHANIE M. (1972), Assistant Director, Academic Affairs, Educational Opportunity Program
B.A., Immaculate Heart College; M.A., University of Southern California
OSHAGEN, EMMA P. (1982), Associate Professor of Communication
B.A., Beirut College for Women; M.A., American University of Beirut; Ph.D., University of Wisconsin
OTHMER, PETER W. (1970), Professor of Mechanical Engineering
B.S.M.E., Purdue University; M.S., Ph.D., University of California, Los Angeles
OVERBECK, WAYNE E. (1980), Lecturer in Communications
B.A. Whittier College; M.S., Ph.D., University of California, Los Angeles; J.D., Loyola Law School
PAGE, NORMAN R. (1972), Professor of Speech Communication
B.A., M.A., California State University, Los Angeles; Ph.D., University of Oregon
PAGNI, DAVID L. (1969), Professor of Mathematics
A.B., California State University, Chico; M.S., University of Notre Dame; Ph.D., University of Wisconsin
PAINE, JOHN G. (1977), Associate Professor of Music
B.A., California State University, Fullerton; B.A., Occidental College; M.M., D.M.A., University of Colorado
PALISI, BARTOLOMEO J. (1963), Professor of Sociology
B.A., M.A., Brooklyn College; Ph.D., University of Nebraska
PANDIAN, JACOB (1972), Professor of Anthropology
B.A., University of Madras; M.A. Northern Illinois University; M.A., Ph.D., Rice University
PARKER, GARY (1980), Assistant Registrar
B.A., M.A., Ph.D., University of California, Riverside

PARKER, MICHAEL C. (1974), Associate Professor of Counseling; and Chair, Counseling Department
B.A., M.S., San Diego State University; Ph.D., Claremont Graduate School
PARKHOUSE, BONNIE (1981), Lecturer in Physical Education
B.S., M.S., Northern Illinois University; Ph.D., University of Minnesota
PARSONS, PATRICK R. (1982), Assistant Professor of Communications
B.A., M.A., California State University, Northridge; A.B.D., University of Minnesota
PARTIN, ROBERT E. (1966), Professor of Art
B.A., University of California, Los Angeles; M.F.A., Columbia University
PASQUALI, JANIS M. (1980), Lecturer in Management
B.A., Immaculate Heart College; M.S., Ph.D., University of California, Irvine
PASTERNACK, BARRY A. (1977), Associate Professor of Management Science
B.A., Antioch College; M.S., Ph.D., University of California, Berkeley
PASTOR, PAUL J. (1960), Professor of Physical Education
B.S., M.Ed., Springfield College; Ed.D., University of Oregon
PATTERSON, JACQUELINE (1975), Lecturer in Earth Science
A.B., Cornell College; M.S., University of Illinois
PAUL, M. JANE (1968), Professor of Music
B.Mus., M.Mus., University of Illinois
PEASE, DONALD E. D. (1969), Professor of Teacher Education
B.S., Central Michigan University; M.A., Ed.D., Colorado State College
PEÑA, ERVIE (1963), Professor of Spanish
B.A., Mexico City College; M.A., Ph.D., University of Southern California
PERKINS, DAVID (1969), Professor of Psychology
B.A., M.A., Ph.D., University of New Mexico
PERRY, SHARON K. (1969), Associate Librarian
B.A., M.A., California State University, Fullerton; M.L.S., University of California, Los Angeles
PETALAS, URANIA C. (1965), Professor of English
B.A., M.A., California State University, Northridge; Ph.D., University of California, Los Angeles
PETERSON, BARBARA A. (1975), Coordinator of Project Equity; and Lecturer in Educational Administration
B.A., University of Arizona; M.A., Ed.D., University of California, Los Angeles
PFIFFNER, JAMES P. (1978), Associate Professor of Political Science
B.A., M.A., Ph.D., University of Wisconsin
PHAM, CAO DUONG (1982) Associate Professor of Teacher Education
B.A., B.A., M.A., University of Saigon, Ph.D., University of Paris VII-Ecole
PHILLIPS, CATHERINE A. (1980), Assistant Professor of Reading
B.A., M.A., San Francisco State University; Ph.D., Arizona State University
PHILLIPS, THEODORE D., JR. (1982), Lecturer in Art
B.S. Woodbury University, M.F.A., California College of Arts and Crafts
PICKERING, JERRY V. (1968), Professor of Theatre
B.A., M.A., California State University, Sacramento; Ph.D., University of California, Davis
PICKERSGILL, GARY M. (1970), Associate Professor of Economics
B.A., University of Oklahoma; M.A., Ph.D., University of Washington
PICKERSGILL, JOYCE S. (1966), Professor of Economics
B.A., Smith College; M.A., Ph.D., University of Washington
PIERCE, JOHN G. (1976), Professor of Mathematics
B.S., Ph.D., Case-Western Reserve
PINCAR, DEBRA A. (1978), Learning Assistance Center Coordinator
B.A., M.A., Jersey City State College
PIVAR, DAVID J. (1965), Professor of American Studies and History
B.S., Millersville State College; M.A., Temple University; Ph.D., University of Pennsylvania
PLATT, JOSEPH (1972), Associate Professor of Chicano Studies
B.A., California State University, Los Angeles; M.A., Ph.D., University of Southern California
POERTNER, KENNETH W. (1980), Lecturer in Management Science
B.S., M.B.A., University of Southern California
POLLAK, P. JUNE (1961), Professor of English
B.A., M.A., Ph.D., University of Southern California
POMERANTSEV, ALEXANDER (1982), Lecturer in Mechanical Engineering
Sc.D., M.E., Ph.D. Moscow Construction Engineering University
PONTNEY, JACK A. (1961), Professor of Economics, *Emeritus*
B.A., University of Redlands; M.A., Ph.D., Northwestern University
POORKAJ, HOUSHANG (1965), Professor of Sociology
B.A., M.A., Ph.D., University of Southern California
PORTER, ALBERT W. (1971), Professor of Art
B.A., University of California, Los Angeles; M.A., California State University, Los Angeles
POVLOVICH, CHARLES A. (1960), Professor of History
B.A., University of Kansas City; M.A., University of Missouri; Ph.D., University of Southern California

POWELL, JAMES C. (1976), Communications Specialist, Career Development Center/Placement
B.A., University of California, Irvine
POWLISON, FRASER (1967), Associate Professor of Teacher Education
B.A., Pomona College; Ph.D., Claremont Graduate School
PRADO, MARCIAL (1974), Professor of Spanish
B.A., Universidad de Villanueva; M.S., Ph.D., Georgetown University
PREBLE, KENNETH J., JR. (1963), Professor of Educational Administration; and Chair, Educational Administration Department
B.A., University of Miami; M.A., Ph.D., University of Chicago
PRENZLOW, CARL F. (1965), Professor of Chemistry
B.A., University of Colorado; Ph.D., University of Washington
PRESCH, WILLIAM F. (1973), Professor of Zoology
B.S., M.A., San Diego State University; Ph.D., University of Southern California
PRINSKY, LORRAINE E. (1972), Associate Professor of Sociology
B.A., University of California, Los Angeles; M.A., University of California, Irvine; Ph.D., University of California, Irvine
PULLEN, RICKY D. (1973), Professor of Communications
B.A., M.Ed., Linfield College; Ph.D., Southern Illinois University
PURI, ANIL K. (1977), Associate Professor of Economics
B.A., M.A., Panjab University; M.A., Ph.D., University of Minnesota
PUTCHA, CHANDRASEKHAR (1981), Associate Professor of Civil Engineering
B.Sc., Banaras Hindu University; M.Tech., Ph.D., Indian Institute of Technology, Kanpur, India
PUTNAM, JACKSON K. (1965), Professor of History
B.S., M.A., University of North Dakota; Ph.D., Stanford University
PUZO, WILLIAM D. (1970), Professor of Geography
B.S., Monmouth College; M.S., Florida State University; Ph.D., University of California, Los Angeles
RAMIREZ, JUDITH V. (1980), Associate Dean, School of Human Development and Community Service; and Professor of Teacher Education
B.A., Newark State College; M.Ed., University of Florida; Ph.D., Stanford University
RAMSAMOOJ, DINDIAL V. (1972), Professor of Civil Engineering; and Chair, Civil Engineering Faculty
B.Sc., University of London; M.Sc., Ph.D., Ohio State University
RAMSAY, ORRINGTON C. (1960), Professor of English, *Emeritus*
B.S., Northwestern University; M.A., Ph.D., University of Wisconsin
RAVIZZA, KENNETH H. (1977), Associate Professor of Physical Education
B.S., Springfield College; M.A., Ph.D., University of Southern California
RECKINGER, NANCY R. (1972), Professor of Teacher Education
B.A., Ed.D., Wayne State University; M.A., Michigan State University
REDDY, CHENNAREDDY P. (1972), Professor of Electrical Engineering
B.E., Andhra University; M.E., University of Roorkee; M.S., University of Hawaii; Ph.D., Southern Methodist University
REEVES, DIANE N. (1979), Director, Women's Center
B.A., Goddard College; M.A., Claremont Graduate School
REEVES, WILLIAM J. (1970), Assistant Dean, Student Services
B.A., Goddard College; M.A., Claremont Graduate School
REITH, GERTRUDE M. (1961), Professor of Geography
B.A., M.A., University of Washington; Ph.D., Clark University
RENCE, ROBERT I. (1970), Professor of Theatre, *Emeritus*
B.S., New Jersey State Teachers College, Trenton; B.T.A., College of Theatre Arts, Pasadena Playhouse; M.A., Occidental College; Ph.D., University of Minnesota
RICHARDSON, IVAN L. (1964), Professor of Political Science
B.A., University of Illinois; M.A., Ph.D., University of Iowa
RHODES, DONNA C. (1982), Executive Assistant to the President
A.B., University of California, Los Angeles; M.A., Eastern Michigan University; Ed.S., University of Michigan; Ph.D., University of Louisville
RICHEY, DEBORA (1982), Senior Assistant Librarian; and Coordinator, Documents Section
B.A., M.L.S., University of California, Los Angeles
RIDENOUR, ROBERT G. (1981), Assistant Professor of Counseling
B.S., Wilberforce University; M.Ed., Xavier University; Ed.D., University of Cincinnati
RIETVELD, RONALD D. (1969), Professor of History
A.B., Wheaton College; B.D., Bethel Theological Seminary; A.M., Ph.D., University of Illinois
RIGGIO, RONALD (1982), Assistant Professor of Psychology
B.S., University of Santa Clara; M.A., Ph.D., University of California, Riverside
RIKLI, ROBERTA E. (1972), Professor of Physical Education
B.S., Phillips University; M.S., Indiana University; Ph.D., University of Colorado
RILEY, GLYNDON D. (1966); Professor of Speech Communication
B.A., M.A., Pepperdine College; Ph.D., Florida State University
RING, L. MERRILL (1973), Professor of Philosophy
B.A., University of California, Santa Barbara; M.A., Ph.D., University of Washington

RIZZA, JAMES J. (1968), Professor of Mechanical Engineering; and Chair, Mechanical Engineering Faculty
B.S., M.S., Ph.D., University of Connecticut
ROBERTS, FRANK L. (1961), Professor of Marketing and Management, *Emeritus*
B.S., University of Arkansas; M.B.A., The University of Texas; Ph.D., University of Illinois
ROBINSON, LEO A. (1972), Professor of Art
B.A., Howard University; M.F.A., Cranbrook Academy of Art
ROBINSON, VERA M. (1976), Professor of Nursing; and Chair, Nursing Department
B.A., University of New Mexico; M.L., University of Pittsbugh; Ed.D., University of Northern Colorado
ROCK, GLORIA D. (1969), Associate Professor of Philosophy
B.A., University of Colorado; M.A., Ph.D., University of California, Los Angeles
RODGERS, LLOYD A, (1972), Professor of Music
B.A., M.A., Ph.D. University of California, Los Angeles
ROGERS, HAROLD R. (1978), Associate Professor of Chemistry
B.S., California State University, Los Angeles; Ph.D., Massachusetts Institute of Technology
ROGERS, LYNN D. (1979), Head Women's Gymnastics Coach
B.S., California State University, Fullerton
ROHDE, GLADYS J. (1972), Associate University Librarian, *Emeritus*
B.A., University of Ilinois; M.S.L.S., University of Southern California
ROMAN, STEVEN, M. (1980), Associate Professor of Mathematics
B.A., University of California, Los Angeles; Ph.D., University of Washington
ROMOTSKY, SALLY R. (1967), Professor of English
B.A., M.A., Texas Western College; Ph.D., University of Georgia
ROSE, GENE (1977), Lecturer in Computer Science
B.S., Case School of Applied Science, Cleveland; Ph.D., University of Wisconsin
ROSEN, GERALD P. (1969), Professor of Sociology
B.A., M.A., University of California, Los Angeles
ROSEN, MARVIN J. (1970), Professor of Communications
B.S., University of Minnesota; M.A., Ed.D., University of California, Los Angeles
ROSENBERG, MARVIN J. (1968), Professor of Biology
B.S., City College of New York; M.S., Cornell University; Ph.D., Columbia University
ROSENBLATT-ROTH, MILLU (1982), Lecturer in Mathematics
B.S., Iasi University, Romania; Ph.D., Lomonosov University, Moscow
ROSENBLUM-CALE, KAREN (1982), Lecturer in Political Science
B.A., Bennington College; M.I.A., Columbia University, School of International Affairs; Ph.D., London School of Economics and Political Science, London
ROSS, IVA D. (1973), Associate Professor of Physical Education
B.S., Wayne State University; M.S., Ph.D., University of Michigan
ROTHMAN, ALVIN H. (1964), Professor of Biology
B.A., M.A., University of California, Los Angeles; D.Sc., The Johns Hopkins University
ROTHMAN, JERRY (1970), Professor of Art
B.F.A., Los Angeles Art Center School; M.F.A., Otis Art Institute
ROTHSTEIN, STANLEY W. (1971), Professor of Educational Administration
B.A., New York University; M.S., Queens College, City University of New York;
Ph.D., Claremont Graduate school
RUBINSTEIN, WILLIAM C. (1966), Professor of English
B.A., City College of New York; M.A., New York University; Ph.D., Yale University
RUSSELL, J. MICHAEL (1969), Professor of Philosophy and Human Services
B.A., M.A., Ph.D., University of California, Santa Barbara
RUSSELL, JACK (1966), Counselor, Student Health and Counseling Service
B.A., Pepperdine College; M.S., Ed.D., University of Southern California
RUTEMILLER, BESSIE M. (1966), Associate Librarian
B.A., Baldwin-Wallace College; M.S., in L.S., Case Western Reserve University
RUTEMILLER, HERBERT C. (1966), Professor of Management Science, *Emeritus*
B.S., Case Institute of Technology; M.S., Ph.D., Case Western Reserve University
RYAN, JOHN A. (1976), Professor of Earth Science; and Chair, Earth Science Department
B.S., Rice University; Ph.D., Pennsylvania State University
SADOVSZKY, OTTO J. (1970), Professor of Anthropology
Ph.L., Collegium Aloysianum; Ph.D., University of California, Los Angeles
SAFFORD, BETTY C. (1979), Lecturer in Philosophy
B.A., Pitzer College; Ph.D., Claremont Graduate School
SAILOR, DANTON B. (1962), Professor of History
B.A., M.A., Ph.D., University of Illinois
SAINT, PREM K. (1972), Professor of Earth Science
B.Sc., M.S., University of London; Ph.D., University of Minnesota
SAINT-LAURENT, GEORGE E. (1975), Lecturer in Religious Studies
A.B., M.A., St. Paul's College; S.T.L., S.T.D., Catholic University of America

SALTZSTEIN, ALAN L. (1975), Professor of Political Science
B.A., Lawrence College; M.A.P.A., University of Minnesota; Ph.D., University of California, Los Angeles
SAMUELSON, JERRY (1962), Dean, School of the Arts; and Professor of Art
B.A., M.A., University of California, Los Angeles
SANDBERG, ROLLIN T. (1964), Professor of Mathematics
B.A., Alfred University; M.A., University of Buffalo; Ph.D., University of Arizona
SANTUCCI, JAMES A. (1970), Professor of Linguistics and Religious Studies
B.A., Iona College; M.A., University of Hawaii; Ph.D., Australian National University
SARMAS, PAUL (1982), Lecturer in Finance
B.Sc.R.C.D., International School of Insu; M.B.A., Hofstra University; Ph.D., Claremont Graduate School
SAWICKI, JOSEPH W (1969), Associate Professor of English
B.A., M.A., Ph.D., University of Chicago
SCANLON, LEE E. (1977), Assistant Professor of Theatre
B.S., Brigham Young University; M.A., American University; Ph.D., Brigham Young University
SCAVIO, MICHAEL J., JR. (1972), Professor of Psychology
A.B., Creighton University; M.A., University of Nebraska; Ph.D., University of Iowa
SCHEEL, VIRGINIA L. (1967), Professor of Physical Education
B.A., LaVerne College; M.A., California State University, Los Angeles; Ph.D., University of Southern California
SCHEINBERG, SEYMOUR (1969), Professor of History
B.A., California State University, Los Angeles; M.A., Ph.D., Claremont Graduate School
SCHICK, GUY A. (1964), Assistant Professor of Economics
B.S., M.S., Purdue University
SCHMIDT, LEO J. (1967), Professor of Special Education
B.S., University of Nebraska; M.A., Northwestern University; Ed.D., University of Southern California
SCHMIDT, LOUIS G. (1961), Professor of Psychology
B.S., Stout State University; M.S., Ph.D., University of Wisconsin
SCHNEIDER, CLARENCE E. (1962), Professor of English, *Emeritus*
B.A., Iowa State Teachers College; M.A., University of Iowa; Ph.D., University of Southern California
SCHREINER, PHILIP J. (1970), Professor of Speech Communication, *Emeritus*
B.A., California State University, Los Angeles; M.A., State University of Iowa; Ph.D., University of California, Los Angeles
SCHULMAN, RICHARD D. (1972), Personnel Management Director
B.A., University of California, Los Angeles
SCHULZ, MURIEL R. (1973), Professor of English
B.A., M.A., Tulane University; M.A., Ph.D., University of Southern California
SCHWARZ, JOHN M. (1969), Professor of English
B.S., M.A., University of Montana; Ph.D., University of California, Los Angeles
SCHWEITZER, DON A. (1969), Dean, School of Humanities; and Social Sciences; and Professor of Psychology
B.A., University of California, Riverside; M.A., Ph.D., University of Nevada, Reno
SCOLES, GRETCHEN (1976), Counselor, Career Development Center
A.B., University of Michigan
SCOTT, MILDRED H. (1965), Director of Admissions
B.A., University of California, Berkeley
SCOTT, SUE (1975), Alumni Affairs Coordinator
B.A., California State University, Fullerton
SCOUFOS, ALICE L. (1966), Professor of English
B.A., Ph.D., University of Oklahoma
SEAPY, ROGER R. (1974), Professor in Zoology
B.A., Pomona College; M.S., Ph.D., University of Southern California
SEARS, DONALD A. (1967), Professor of English and Linguistics; and Chair, Linguistics Department
B.A., Bowdoin College; M.A., Ph.D., Harvard University
SEE, RICHARD E. (1966), Associate Professor of Anthropology
B.A., M.A., Ph.D., University of California, Los Angeles
SELLER, HOWARD J. (1965), Professor of English
B.A., University of California, Los Angeles; M.A., Ph.D., University of Southern California
SETH, SHIRISH B. (1976), Professor of Accounting
B.C., M.C., University of Bombay; M.B.A., Texas Christian University; Ph.D., Michigan State University
SFEIR, RAYMOND (1982), Lecturer in Economics
B.A., American University of Beirut; M.A., University of California, Santa Barbara
SHAPIRO, MARK H. (1970), Professor of Physics
A.B., University of California, Berkeley; M.S., Ph.D., University of Pennsylvania
SHAPLEY, CHARLES S. (1962), Professor of French
B.A., M.A., Ph.D., University of California, Berkeley
SHARMA, RADHA M. (1966), Associate Professor of Finance
B.S., M.B.A., Florida State University; Ph.D., University of California, Los Angeles
SHARP, JAMES B. (1969), Associate Vice President, Facility Planning and Operations
B.A., California State University, Los Angeles

SHARPE, ALEX W. (1970), Director of Program Services, Extended Education
B.A., California State University, Fullerton
SHAUL, DONALD R. (1964), Professor of Management, *Emeritus*
B.S., United States Naval Academy; M.B.A., Ph.D., University of California, Los Angeles
SHEN, LOUIS N. (1973), Professor of Physics; and Chair, Physics Department
B.A., International Christian University; M.A., Ph.D., Washington University
SHIFLETT, RAY C. (1975), Professor in Mathematics
B.A., Eastern Washington State College; M.S., Ph.D., Oregon State University
SHIVA, MOSTAFA (1982), Lecturer in Electrical Engineering
B.S., Tehran University; M.S., Ph.D., University of Southern California
SHUBERT, RICHARD (1982), Lecturer in Physics
B.S., Walla Walla College; M.S., Ph.D., University of Washington
SHULTZ, HARRIS S. (1970), Professor of Mathematics
B.A., Cornell University; Ph.D., Purdue University
SHULTZ, WILLIAM R. (1969), Coordinator of Audiovisual Services
B.A., M.A., California State University, Fullerton
SHUMWAY, GARY L. (1967), Professor of History
B.A., M.A., Brigham Young University; Ph.D., University of Southern California
SIADAT, DARIUSH (1982), Lecturer in Electrical Engineering
B.S.E.E., University of Wisconsin; M.S.E.E., California State University, Fullerton
SICA, MORRIS G. (1964), Professor of Teacher Education
B.A., Brooklyn College; M.A., University of Michigan; Ed.D., Florida State University
SIHOTA, SOHAN S. (1972), Professor of Management Science
B.A., Government College, Ludhiana; B.A., University of Oregon; M.S., Ph.D., University of Delaware
SIMONE, VERA S. (1972), Professor of Political Science
B.A., Queens College; M.A., Ph.D., The University of Michigan
SIMPSON, ROBERT L. (1967), Associate Professor of Education, *Emeritus*
B.A., University of Washington; M.A., California State University, Los Angeles; Ph.D., University of Southern California
SINGHANIA, RAM P. (1973), Professor of Management Science
B.Sc., University of Allahabad; B. Tech., Indian Institute of Technology; M.S., Stanford University; Ph.D., University of California, Irvine
SLATE, DEBORAH A. (1982), Assistant Professor of Theater
B.S., University of California, Davis; M.F.A., University of Washington, Seattle
SMITH, J. REX (1961), Professor of Sociology
B.A., Phillips University; B.D., Yale University Divinity School; M.A., Ph.D., University of Southern California
SMITH, JAMES D. (1969), Professor of Zoology
B.A., Southern Illinois University; M.A., Ph.D., University of Kansas
SMITH, RICHARD L. (1971), Professor of Philosophy
B.A., California State University, Northridge; M.A., Ph.D., University of California, Los Angeles
SMITH, VICTOR V. (1962), Professor of Art, *Emeritus*
B.A., M.A., California State University, Long Beach
SMITH, WM. RAY (1969), Associate Professor of Psychology
B.A., Wheaton College; M.A., Ph.D., University of Illinois
SMYTHE, TED C. (1963), Professor of Communications
B.S., Sterling College; M.S., University of Oregon; Ph.D., University of Minnesota
SNEED, MARION P. (1977), Acting Vice President, Administration
B.A., College of Notre Dame; M.A., Institute, Catholique, Paris; M.A., Stanford University
SOLBERG, ERIC J. (1973), Professor of Economics; and Chair, Economics Department
B.A., M.A., California State University, Fullerton; Ph.D., Claremont Graduate School
SONENSHEIN, RAPHAEL (1980), Lecturer in Political Science
B.A., Princeton University; M.A., Yale University
SOWELL, EDWARD F. (1972), Professor of Mechanical Engineering and Computer Science; and Chair, Computer Science Department
B.S., M.S., Ph.D., University of California, Los Angeles
SPANGLER, GEORGE M. (1966), Professor of English
A.B., Haverford College; M.A., Ph.D., University of California, Berkeley
SPENGER, ROBERT E. (1964), Professor of Chemistry
B.A., University of California, Berkeley; Ph.D., University of California, Los Angeles
STANTON, LaVERNE W. (1971), Associate Professor of Management Science
B.A., M.A., University of Oregon; Ph.D., Case Western Reserve University
STARK, SHIRL A. (1966), Professor of Special Education
A.B., California State University, Los Angeles; M.S., Ed.D., University of Southern California
STEARNS, EDWARD R. (1969), Associate Professor of Psychology
A.B., Harvard University; Ph.D., University of California, Berkeley
STEDMAN, PRESTON (1976), Professor of Music
B.A., M.M., Texas Christian University; Ph.D., Eastman School of Music

STEINER, MICHAEL C. (1975), Associate Professor of American Studies
B.A., Carleton College; M.A., Ph.D., University of Minnesota
STEWART, CAMERON (1967), Associate Professor of History
B.A., University of Washington; M.A., Ph.D., Claremont Graduate School
STEWART, ROBERT J. (1969), Professor of Music
B.S.M.E., State University of New York at Fredonia; M.M., Butler University; Ph.D., University of Iowa
STICKELS, PERRY J. (1977), Associate Professor of Finance
M.S., University of California, Los Angeles; M.B.A., University of Southern California; Ph.D. Claremont Graduate School
STIEL, BETH T. (1966), Librarian; and Coordinator, Acquisitions Section
B.A., University of California, Los Angeles; M.L.S., University of California, Berkeley
STIEL, EDSEL F. (1962), Professor of Mathematics
B.A., M.A., Ph.D., University of California, Los Angeles
STOKESBARY, JON F. (1969), Associate Professor of Art
B.A., Pomona College; M.F.A., Claremont Graduate School
STOLLER, DAVID S. (1970), Professor of Management Science and Mathematics
B.A., Ph.D., University of California, Los Angeles; M.S., California Institute of Technology
STONE, BARBARA S. (1969), Professor of Political Science
A.B., A.M., Ph.D., University of Southern California
STONE, IRVING (1977), Lecturer in Political Science
B.S.S., City College; B.B.A., Baruch College; M.P.A. New York University; L.L.B., J.D., Brooklyn Law School
STOVALL, EULA M. (1965), Professor of Physical Education; and Chair, Department of Health Education, Physical Education and Recreation
B.A., Colorado State College of Education; M.A., San Francisco State University; Ph.D., University of Southern California
STREITBERGER, H. ERIC (1968), Professor of Science Education; Teacher Education and Chemistry
B.A., University of Northern Iowa; M.S., Ph.D., Oregon State University
STROSSER, COREEN A. (1977), Audiovisual Coordinator
B.A., M.A., California State University, Los Angeles; M.A., University of Southern California
STUART, C. MICHAEL (1971), Associate Professor of Sociology
B.A., M.A., University of British Columbia; Ph.D., University of Oregon
SUCHEY, JUDY M. (1969), Professor of Anthropology
B.A., M.A., University of Kansas; Ph.D., University of California, Riverside
SUDHALTER, TREVA R. (1967), Counselor, Counseling Center, *Emeritus*
B.A., M.A., George Washington University
SUEZ, VINCENT H. (1973), Associate Professor of Art
B.A., California State University, Fullerton; M.F.A., Claremont Graduate School
SUICH, RONALD C. (1980), Associate Professor of Management Science
B.S., B.A., John Carroll University; M.S., Ph.D., Case Western Reserve University
SUNOO, DON H. (1977), Professor of Communications
B.A., Seoul National University; M.A., Ph.D., University of Missouri
SUTPHEN, SANDRA (1967), Associate Professor of Political Science
A.B., Douglass College; M.A., Ph.D., Rutgers University
SUTTON, DONALD D. (1960), Professor of Biology, *Emeritus*
B.A., University of California, Berkeley; M.A., Ph.D., University of California, Davis
SUTTON, IMRE (1964), Professor of Geography
B.A., M.A., Ph.D., University of California, Los Angeles
SWAD, RANDY G. (1977), Professor of Accounting
B.B.A., Ohio University; M.B.A., Florida Atlantic University; Ph.D., Louisiana State University; C.P.A.
SWAN, HOWARD S.(1971), Professor of Music, *Emeritus*
A.B., Mus.Dr., Pomona College; M.A., Claremont College
SWANSON, CURTIS W. (1970), Associate Professor of German
B.S., Iowa State University; M.A., University of Iowa; Ph.D., University of California, Berkeley
SWEENEY, JOHN B. (1970), Registrar
B.S., Xavier University; M.A., Ohio State University
TALEYSUM, ADIL T. (1982), Lecturer in Economics
B.A., Wake Forest University; M.B.A., Ohio University
TALENTO, BARBARA N. (1979), Assistant Professor of Nursing
B.S., California State University, Fullerton; M.S., California State University, Los Angeles
TAYLOR, EDITH B. (1977), Sr. Assistant Librarian, Readers' Services
A.B., University of California, Berkeley; B.L.S., University of British Columbia; M.A., University of California, Los Angeles
TAYLOR, FRANK W. (1972), Professor of Finance
B.S., U.S. Naval Academy; M.S., Massachusetts Institute of Technology; M.B.A., California State University, Long Beach; D.B.A., University of Southern California
TAYLOR, JAMES W. (1973), Professor of Marketing
B.B.A., University of Minnesota; M.B.A., New York University; D.B.A., University of Southern California

THOMAS, BARRY (1972), Professor of Science Education and Biology
B.A., M.A., California State University, Fullerton; Ph.D., University of British Columbia
THOMAS, FLOYD W., JR. (1969), Professor of Mechanical Engineering
B.S.M.E., University of South Carolina; M.S., Ph.D., North Carolina State University
THOMAS, JOSEPH L. (1974), Associate Professor of Chemistry
B.S., Valparaiso University; Ph.D., University of Norte Dame
THORSEN, DAVID O. (1960), Professor of Music; and Chair, Music Department
B.Mus., University of Redlands; M.A., Occidental College
THORUM, ARDEN R. (1973), Professor of Speech Communication
B.A., California State University, Los Angeles; M.A., California State University, Fullerton; Ph.D., University of Utah
TIMM, LAURANCE M. (1977), Associate Professor of Music
B.M., Louisiana State University; M.M., M.M.A., D.M.A., Yale University
TODD, WILLIAM L. (1979), Lecturer in Accounting
B.S., M.B.A., University of California, Los Angeles
TONIETTI, MARCO E. (1970), Professor of Finance; and Chair, Finance Department
B.Com., University of Baghdad; M.S., University of Illinois; M.B.A., University of California, Los Angeles; Ph.D., St. Louis University
TOY, ERNEST W., (1959), University Librarian; and Associate Professor of History
B.A., College of St. Thomas; M.S., University of Southern California; M.A., University of California, Los Angeles
TRABER, WILMA J. (1974), Professor of Nursing, *Emeritus*
B.S., California State University, Long Beach; M.S., University of California, Los Angeles Ed.D., University of Southern California
TROTTER, EDGAR P., III (1975), Professor of Communications, Chair of Communications Department; and Chair, Faculty Council, 1982–83
B.S., Murray State University; M.S., Ohio University; Ph.D., Southern Illinois University
TSAGRIS, B. E. (1968), Professor of Finance
B.S., University of California; Berkeley; M.S., Ph.D., University of Southern California
TSAI, LOH SENG (1965), Professor of Psychology, *Emeritus*
B.A., Nanking University; M.S., Fuh Tan University; Ph.D., University of Chicago
TUAZON, JESUS O. (1969), Professor of Electrical Engineering
B.S.E.E., Mapua Institute of Technology; M.S.E.E., Ph.D., Iowa State University
TUMAS, ELENA V. (1965), Professor of English
B.A., Immaculate Heart College; M.A., Ph.D., University of Southern California
TURNER, G. CLEVE (1960), Professor of Biology and Science Education
B.A., Stanford University; M.S., Utah State University; M.Ed., Eastern Washington College of Education; Ed.D., Arizona State University
TUSSING, MARJORIE O. (1965), Professor of German
B.A., Whittier College; M.A., Middlebury College; Ph.D., University of Southern California
TYGART, CLARENCE E. (1960), Professor of Sociology
B.S., Southwest Missouri State College; M.A., Ph.D., University of California, Los Angeles
TYRA, ANITA I. (1977), Professor of Accounting
B.A., Eastern Washington State College; M.A., Ph.D., University of Washington; C.P.A.
UNTEREINER, WAYNE W. (1964), Professor of Anthropology
B.A., University of California, Berkeley; M.A., Ph.D., Harvard University
VAID-RAIZADA, VISHIST K. (1982), Lecturer in Management Science
B.Sc., Punjab University, India; M.Sc., Loughborough University of Technology, England; M.S., Postgraduate Engineer's Degree, Stanford University; Ph.D., International University, San Diego
VANASSE, ROBERT W. (1970), Professor of Accounting
B.B.A., M.B.A., Ph.D., University of Minnesota; C.P.A.
VAN DEVENTER, DAVID E. (1965), Professor of History
B.A., Baldwin-Wallace College; M.A., Ph.D., Case Western Reserve University
VAN GINNEKEN, EVA R.(1964), Professor of French
B.A., M.A., Wayne University; Ph.D., Brown University
VAN LIEROP, JOHANNES H. (1981), Lecturer in Economics
Doctorandus, Dutch School of Economics, Rotterdam, Holland; Ph.D., University of Toronto
VASARI, STEPHEN (1968), Associate Professor of Spanish
LL.D., University of Bratislava; B.Comm., Sir George Williams University; B.A., California State University, Los Angeles; Ph.D., University of California, Los Angeles
VAUGHAN, RODGER D. (1965), Professor of Music
B.Mus., University of Kansas; M.Mus., Wichita State University
VEGA, ANTHONY M.— (1973), Associate Professor of Education on assignment with Title VII, Bilingual-Bicultural Education
B.A., M.A., California State University, Fullerton; Ph.D., University of California, Los Angeles
VENKATESAN, MAHADEVA S. (1970), Professor of Civil Engineering
B.S., University of Mysore; M.S., University of Madras; Ph.D., University of California, Berkeley
VERGES, FRANK G. (1970), Associate Professor of Philosophy
B.A., M.A., University of Iowa; Ph.D., University of California, San Diego

VOGELER, MARTHA S. (1969), Professor of English
B.S., New Jersey College; M.A., Ph.D., Columbia University
WAGNER, M. JOHN (1964), Professor of English, *Emeritus*
B.A., M.A., University of Chicago; Ph.D., Northwestern University
WALKINGTON, DAVID L. (1963), Associate Vice President, Extended Education; and Professor of Biology
B.A., M.S., Arizona State University; Ph.D., Claremont Graduate School
WAMSER, CARL C. (1970), Professor of Chemistry
Sc.B., Brown University; Ph.D., California Institute of Technology
WANG, K. ANDY (1981), Lecturer in Civil Engineering
B.E., Taiwan Christian College; M.V.P., University of Washington, Seattle; M.S., Ph.D., University of Wyoming
WARD, LARRY W. (1976), Associate Professor of Communications
A.B., William Jewell College; M.A., University of Iowa
WASH, BRENDA L. (1981), Acting Associate Vice President, Student Academic Affairs and Special Programs
B.A., University of California, Los Angeles; M.A., California State University, Los Angeles; Ed.D., University of California, Los Angeles
WATKIN, LAWRENCE E. (1965), Professor of English, *Emeritus*
B.A., Syracuse University; M.A., Harvard University
WATSON, GEORGE W. (1969), Professor of Psychology
B.A., Occidental College; M.A., California State University, Los Angeles; Ph.D., University of California, Santa Barbara
WEAVER, E. JAMES (1969), Professor of American Studies
Ph.B., Marquette University; Ph.D., Brown University
WEAVER, WALLACE Q. (1979), Associate Professor of Finance
B.S.A.E., West Virginia University; M.B.A., University of Pittsburgh; M.S.B.A., Ph.D., University of Southern California
WEBBER, ARTHUR W. (1973), Associate Professor of Psychology
B.A., Stanford University; Ph.D., University of Texas
WEBER, BRUCE H. (1970), Professor of Chemistry
B.S., San Diego State University; Ph.D., University of California, San Diego
WEGNER, PATRICK A. (1969), Professor of Chemistry; and Chair, Chemistry Department
B.S., Northwestern University; Ph.D., University of California, Riverside
WEIGHTMAN, BARBARA A. (1972), Professor of Geography
B.Ed., University of British Columbia; M.A., Ph.D., University of Washington
WEILL, LAWRENCE R. (1980), Associate Professor of Mathematics
B.S.E.E., M.S.E.E., California Institute of Technology; M.S., California State University, San Diego; Ph.D., University of Idaho
WEINMANN, CAROL A. (1969), Associate Professor of Physical Education
B.S., M.S., Bowling Green State University; Ph.D., University of North Carolina
WEINTRAUB, JOEL D. (1968), Professor of Zoology
B.S., City College of New York; Ph.D., University of California, Riverside
WEINZWEIG, MARJORIE J. S. (1973), Professor of Philosophy
B.A., Brandeis University; Ph.D., University of California, Berkeley
WELLS, JOANN C. (1979), Assistant Professor of Reading
B.S., Mount St. Mary's College; M.S., California State University, Fullerton
WHITE, GEOFFRY D. (1974), Associate Professor of Psychology
B.A., University of California, Los Angeles; Ph.D., University of Oregon
WHITE, JOHN O. (1970), Professor of English
B.A., M.A., California State University, Sacramento; Ph.D., Arizona State University
WHITE, MARGARET H. (1969), Associate Professor of Psychology
B.A., Pomona College; Ph.D., University of California, Riverside
WICKETT, WILLIAM W. (1967), Medical Director, Staff Physician, Student Health and Counseling Center, *Emeritus*
B.A., M.D., University of Southern California
WILDER-JONES, JOYCE M. (1973), Associate Librarian; and Coordinator, Reference Section
B.A., University of California, Irvine; M.L.S., M.A., California State University, Fullerton
WILEY, EDGAR A. (1966), Associate Professor of Management, *Emeritus*
B.A., Claremont Men's College; M.I.S., Ph.D., Claremont Graduate School
WILLIAMS, CHARLES F. (1967), Associate Professor of Science Education and Teacher Education; and Coordinator, Secondary Education
A.B., University of California, Berkeley; M.A., Ph.D., The University of Texas
WILLIAMS, ROY A. (1973), Special Project Coordinator, Career Development Center/Testing and Research Center
B.A., M.P.A., California State University, Fullerton
WILLIAMS, THOMAS A. (1967), Business Manager
B.S., Columbia University; M.B.A., Harvard University
WILLIS, W. VAN (1967), Professor of Chemistry
B.S., Georgia Institute of Technology; M.S., Ph.D., University of Tennessee

WINSTON, KATHLEEN M. (1981), Lecturer in Nursing
A.D.N., B.S.N., University of Nevada, Las Vegas; M.S.N., University of California, San Diego
WISEMAN, DORSEY E. (1961), Professor of Accounting and Finance
B.S., West Virginia University; M.B.A., University of Pennsylvania; Ph.D., University of Illinois; C.P.A.
WISEMAN, RICHARD LEE (1978), Associate Professor of Speech Communication
B.A., Wichita State University; M.S., University of Oregon; Ph.D., University of Minnesota
WITCHEY, RONALD L. (1965), Professor of Physical Education
B.A., Dennison University; M.Ed., Bowling Green State University; Ph.D., University of Southern California
WOLCOTT, MONSIE C. (1980), Lecturer in Accounting
B.S., H.E.C.T.F., Paris; M.B.A., California State University, Long Beach
WOLFE, V. RICHARD (1968), Men's Head Gymnastics Coach
B.A., M.A., California State University, Sacramento
WOLL, STANLEY B. (1972), Professor of Psychology
B.A., Washington University; M.A., Ph.D., University of Illinois
WONG, DAVID C. (1981), Assistant Professor of Economics
B.Sc., M.Sc., University of the West Indies, Mona, Jamaica; M.A., University of California, Santa Barbara
WONG, DOROTHY PAN (1964), Professor of Chemistry
B.S., University of Oklahoma; M.S., University of Minnesota; Ph.D., Case Institute of Technology
WOO, JOHN C. H. (1962), Professor of Accounting, *Emeritus*
B.A., National University; M.A., San Francisco State University; M.A., Ph.D., University of California, Berkeley
WOOD, CORINNE S. (1973), Professor of Anthropology; and Coordinator, Human Services Program
A.B., Ph.D., University of California, Riverside
WOOD, RONALD D. (1976), Assistant Professor of Theatre
B.A., M.A., University of Alabama; Ph.D., Florida State University
WOODARD, NELSON E. (1968), Associate Professor of History
B.A., University of Rochester; M.S., Ph.D., University of Wisconsin
WOODWARD, JAMES F. (1972), Professor of History; Adjunct Professor of Physics; and Chair, History Department
A.B., Middlebury College; M.S., New York University; Ph.D., University of Denver
WOOLUM, DOROTHY S. (1973), Professor of Physics
B.A., Cornell University; Ph.D., Washington University
WORDEN, PATRICIA E. (1977), Associate Professor of Psychology
B.A., University of Colorado; Ph.D., University of California
WORKS, ERNEST (1964), Professor of Sociology
B.A., Arkansas Agricultural, Mechanical and Normal College; M.A., Ph.D., University of Illinois
WORTMAN, ANDREW (1982), Lecturer in Mechanical Engineering
B.S., M.S., University of California, Berkeley; Ph.D., University of Califonria, Los Angeles
WOYSKI, MARGARET S. (1967), Professor of Earth Science; and Acting Associate Dean, School of Mathematics, Science and Engineering
B.A., Wellesley College; M.S., Ph.D., University of Minnesota
WRIGHT, BRUCE E. (1970), Professor of Political Science
B.A., M.A., University of Kansas; Ph.D., University of Minnesota
WRIGHT, JEROME W. (1981), Lecturer in Human Services
A.B., M.L.S., University of California, Berkeley; M.A., California State University, San Francisco; Ph.D., Harvard University
YADA, KINJI KEN (1969), Associate Professor of History
B.A., University of California, Los Angeles; M.A., University of Michigan; Ph.D., University of Southern California
YANKO, HELEN M. (1969), Associate Professor of English
B.A., Chatham College; M.A., Ph.D., University of Pennsylvania
YESSIS, MICHAEL (1966), Professor of Physical Education
B.S., M.A., City College of New York; Ph.D., University of Southern California
YINGER, JON A. (1966), Professor of Political Science
B.A., Whittier College; M.A., Ph.D., Claremont Graduate School
YOUNG, JAMES D. (1960), Professor of Theatre
B.S., Pepperdine College; M.A., Ph.D., University of Southern California
YOUNG, ROBERT A. (1976), Associate Professor of Geography
B.A., Illinois State University; M.A., Ph.D., University of Wisconsin-Madison
ZEE, YUN-CHENG (1968), Professor of Mathematics
B.S., Hong Kong Baptist College, M.S., University of South Carolina; Ph.D., University of Pittsburgh
ZELTZER, ALLEN M. (1963), Professor of Theatre
B.A., M.A., Ph.D., Wayne State University
ZEYEN, MARY MARK (1975), Professor of Music
B.A., Immaculate Heart College; M.Mus., University of Southern California; Ph.D., Eastman School of Music, University of Rochester
ZILBERT, EDWARD R. (1973), Professor of Economics and Management
B.B.A., City College of New York; M.A., Ph.D., University of California, Los Angeles

ZIMMER, ROBERT J., (1977) Professor of Marketing
B.B.A., St. Francis College; M.B.A., Long Island University; Ph.D., Virginia Polytechnic Institute and State University

ZIMMER, TROY A. (1971), Professor of Sociology
B.A., Southern Illinois University; M.A., University of Hawaii; Ph.D., Ohio State University

ZIMMERMANN, JON E. (1966), Professor of German
B.S., University of Wisconsin; M.A., Ph.D., University of Colorado

ZINBERG, CECILE (1969), Professor of History
B.A., Barnard College; M.A., Columbia University; Ph.D., University of Chicago

ZLENDICH, JANICE M. (1973), Associate Librarian; and Coordinator, Pre-Cataloguing Section
A.B., MacMurray College; M.S. in L.S., University of Illinois



INDEX

INDEX

Academic
  Advisement, 83
    Departmental Advisers, 85
    General Education, 85
    Undeclared Majors, 84
  Appeal, right of, 70
  Dishonesty. *See* Student Conduct, 64, 68
  Disqualification, 67
  Probation, 67, 421
  Programs Office, 22
  Records, 47, 58
  Renewal, 65
Accounting courses, 141
Accreditation, 22
ACT tests, 42
Adjunct enrollment, 23
Administration
  Directory of faculty, 427
  University, 11
Administrative Services Credential Program, 163
Admission, 40
  Academic probation, 67
  Advanced Placement, 50
  Application for, 40
  Cancellation of, 49
  Categories; impacted programs, 40
  Credential programs, 49
  Early, 43
  Foreign students, 44, 46
  Freshman, 42
  Graduate students, 40, 46, 363
  High school students, 44
  Honors at entrance, 49
  Intrasystem transfer, 50
  New requirement for fall 1984, 44
  Nonresidents, 43
  Non-high school graduates, 44
  Postbaccalaureate students, 46
  Probation, 47
  Procedures, 40
  Readmission, 47
  Residence statement, 48
  Summer session students, 47
  Undergraduate transfers, 45
Adult Re-entry Center, 38
Advertising, 214
Advisement, Academic, 84
Advisory Board, 18
Affirmative Action, 26
  Student, 26
  University, 4
Afro-Ethnic Studies department, 198
  Afro-American studies option, 198
  Bachelor of Arts in Ethnic Studies, 198
  Courses, 200
  Minor, 199
Alumni Affairs, 38
American Studies, 201
  Bachelor of Arts degree, 201
  Courses, 202
  Master of Arts Degree, 364
  Minor, 202
Anthropology, 204
  Bachelor of Arts degree, 204
  Courses, 205
  Master of Arts degree, 365
  Minor, 205
Application, 40
  Admission, 40
  Fee, 54
Arabic courses, 235
Arboretum, 20
Art, 94
  Bachelor of Arts degree, 94
  Courses, 97
  Education courses, 103
  Master of Arts degree, 366
  Minor, 97
  Museum studies certificate, 367
Arts, School of the, 94
Associated Students, 33
  Fee, 54
Astronomy, 300
Athletic Trainer, Certificate, 167
Athletics, 33, 164
Audiovisual Center. *See* Instructional Media Center, 25
Auditors, 54
  Fee, 54
  Registration of, 54

Bachelor's Degree, 74
  Degrees offered, 88
  General requirements, 74
  Graduation requirements, 82
  Second, 82
Bilingual/bicultural education, Master of Science degree, 379
Bilingual/Cross Cultural Studies, 91
Bilingual studies emphasis, Master of Arts degree, 379
Biological Science, 300
  Bachelor of Arts degree, 301
  Courses, 303
  Master of Arts degree, 368
Biology. *See* Biological Science, 300
Bookstore, Titan, 30
Business Administration, 130
  Bachelor of Arts degree, 133
  Courses, 134
  English Proficiency Exam, 131
  Master of Business Administration, 369
  Minor, 139
  School of, 130
Business Education, 129

Calendar, 6
California State University, 9
  Costs and sources of funds, 56
California State University, Fullerton
  Administration, 13
  Advisory Board, 13, 17
  Foundation, 16, 29
  Overview, 18
Camp Titan, 34
Campuses of the California State Universities, 12
Career Development Center—Counseling, 31

Catalog regulations for degree requirements, 73
Centers, research, 26
Challenge examinations. *See* Credit by examination, 63
Chancellor's Office, 10
Change of program, 53, 85
  Fee, 54
Chemistry, 310
  Bachelor of Arts degree, 311
  Bachelor of Science degree, 310
  Courses, 313
  Geochemistry, emphasis in, 346
  Master of Arts degree, 372
  Minor, 310
Chicano Studies, 209
  Bachelor of Arts degree in Ethnic Studies, 209
  Courses, 211
  Minor, 210
Child Development, 158
  Bachelor of Science degree, 158
  Courses, 160
Chinese courses, 235
Civil Engineering, 333
  Courses, 334
Class Attendance, 59
Classification in the university, 58
College Level Examination Program, 51
Communications, 213
  Bachelor of Arts degree, 13
  Courses, 216
  Journalism Education, 215
    Courses, 220
  Master of Arts degree, 374
Communicative Disorders
  Bachelor of Arts degree, 292
  Master of Arts degree, 374
Community Minority Affairs Advisory Council, 16
Community support groups, 20
Community Research and Development Institute, 29
Comparative Literature, 223
  Bachelor of Arts degree, 223
  Courses, 226
  Master of Arts degree, 375
Computer Center, 24
Computer Management. *See* Management Information Systems, 132
Computer Science, 317
  Bachelor of Science degree, 318
  Courses, 319
  Master of Science degree, 376
  Minor, 319
Concurrent enrollment, 45, 54
Conduct, students, 68
Consortium, CSU, 10
Continuing Education. *See* Extended Education, 23
Continuous residency, 66
Correspondence courses, 50
Costs and sources of funds, 56
Counseling, 160
  Courses, 161
  Credentials, 160
  Master of Science degree, 377
Counseling services, 24
Course Notations, 89
Course numbering codes, 89
Courses, level of, 89
Credential programs. *See* Human Development and Community Service, School of, 158
  Multiple Subjects, 186
  Single Subject, 188
Credit, 49
  Acceptance of, 50
  Advanced placement, 50
  By examination, 51, 63
  Challenge examination, 63
  College level examination, 51
  Correspondence course, 50
  English equivalency, 51
  Extension course, 50
  Military service, 50
  Science/Mathematics equivalency, 51
  Summer Session, 6, 23
  Transfer, 50. *See* also Study plan, 416
  Unit of, 58
Criminal Justice, 222
  Bachelor of Arts degree, 221
  Courses, 221
Cross-disciplinary university programs, 91
Curricula, University, 88

Dance (see Theatre), 120
  Bachelor of Arts degree in Theatre Arts (with emphasis in dance), 120
Dean's List, 67
Debts owed to university, 69
Degrees offered, 86
Degree requirements, 73
Departmental Associations Council. *See* Associated Students, 33
Desert studies consortium, 29
Discipline. *See* Student Conduct, 68
Dishonesty, academic, 64
Disqualification, Academic, 67
Drama. *See* Theatre, 118
Drops, instructor initiated, 59

Early Childhood Education, Institute for, 28
Earth Science, 322
  Bachelor of Science degree, 322
  Courses, 324
  Minor, 324
Economic Education Center, 27
Economics, 143
  Bachelor of Arts degree, 133
  Courses, 143
  English Proficiency Exam, 131
  Master of Arts degree, 377
  Minor, 139
Education
  Master of Science degree, 379
Educational Administration, 163
  Courses, 163
  Internships, 163
  Master of Science degree, 163
Educational Opportunity Program, 24
Election of curriculum requirements, 66
Electrical Engineering, 336
  Courses, 337
Elementary curriculum and instruction, Master of Science degree, 380
Elementary education. *See* Teacher education, 185
Engineering, 327
  Courses, 332
  Bachelor of Science degree, 328

Master of Science degree, 386
English, 223
Bachelor of Arts degree, 224
Courses, 227
Education courses, 231
Master of Arts degree, 388
Minor, 225
English Equivalency Examination, 51
Teaching of, to speakers of other languages, 232
Enrollment, 54
Adjunct, 23
Concurrent, 54
Definitions, 57
In graduate level courses by undergraduates, 58, 420
Regulations, 58
Entrance examinations, 42
Environmental Education, 360
Environmental Studies, 360
Courses, 361
Master of Science degree, 389
Ethnic Studies programs, 198
Afro-American studies option. *See* Afro-Ethnic Studies, 198
Mexican-American option. *See* Chicano Studies, 211
Evaluations, 50
Acceptance of credit, 50
Advanced placement credit, 50
Challenge examination credit, 63
College Level Examination Program, 51
Correspondence course credit, 50
Credit by examination, 63
Extension course credit, 54
General policy, 47
Graduate students, 40, 363
Military service credit, 50
Postbaccalaureate students, 40
Transfer credits, 50
Evening classes. *See* Schedule of Classes, 22
Examinations
College level program, 51
Challenge, 63
English placement test, 51
Entrance, 51
Entry level mathematics, 51
Final, 63
Expenses. *See* Fees, 54
Extended Education, 21
Credit, 21
Fees, 54

Faculty, 15
Directory, 427
Federal insured loan, 35
Fees, 54
Application for admission, 41
Associated Students, 33
Auditors, 54
Change of program, 53
Extension, 50
Foreign students, nonresident, 55
Graduation and diploma, 55
Late registration, 53
Nonresident tuition, 55
Parking, 56
Refund, 55
Registration, 53
Regular student, 54
State University, 54
Student services, 56
Summer session, 55
Transcript, 55
Waiver, 55
Field services and professional development center, 27
Finance Courses, 146
Financial Aid, 35
Food service, 30
Foreign Languages and Literatures, 231
Bachelor of Arts degree, 231
Credential programs, 232
Education courses, 234
Language Laboratory, 233
Master of Arts degree. *See* French, German, Spanish
Minor, 232
Foreign students, 37, 46
Foundation, 29
Board of Directors, 17
Fraternities. *See* Student organizations, 33
French, 231
Bachelor of Arts degree, 231
Courses, 234
Master of Arts degree, 389
Fullerton Arboretum, 20

General education. *See* Graduation requirements, 82
Geochemistry. *See* Chemistry, 310
Geography, 243
Bachelor of Arts degree, 244
Courses, 244
Master of Arts degree, 390
Minor, teaching, 244
Geology. *See* Department of Earth Science, 322
Geophysics Institute, 28
German, 231
Bachelor of Arts degree, 231
Courses, 237
Master of Arts degree, 391
Gerontology, Minor in, 248
Good standing, 66
Grade changes, 64
Grade-point averages, 63
Grade reports, 62
Grading Records, 62
Grading system, 59, 421
Graduate Programs, 362
Academic and grading standards, 421
Admission, 40, 45, 413
Admission from nonaccredited schools, 416
Advisement, 363
Assistantships, 363
Candidacy, advancement to, 417
Changes in study plan, 418
Conditionally classified standing, 415
Classified standing, 415, 417
Declassification, 422
Degrees and certificates offered, 363
Enrollment provisions, 418
Faculty research, office of, 27
Fellowships and financial aids, 35
Full-time load, maximum, 419
Full-time load, minimum, 419
General requirements for master's degree, 416

Grade-point average standards, 421
Grades, CR, S or P, 59
GRE tests, 414
Grants, 35
International programs, 37
Leave of absence, 66, 420
Postgraduate credit, 420
Probation and disqualification, 67, 421
Projects and theses, 422
Regulations, 413
Requirements for Master's degree, 413
Residence requirements, 66
Second Master's degree, 420
Study plan, 416
Study plan changes, 418
Summary of steps, 424
Tests required, 414
Theses and projects, 422
Time limit, 418
Writing requirement, 74
Graduation requirement check, 82, 425
Graduation requirements, bachelor's degree, 74
Grants, 35
GRE tests, 414
Greek courses, 239

Handicapped students, 4, 37, 54
Health and Counseling Center, 35
Education Courses, 169
Insurance, 35
Health Education, Physical Education and Recreation, 164
Health Education Courses, 169
Health professions, 86
Hebrew courses, 239
Higher Education, Master of Science degree, 381
History, 248
Bachelor of Arts degree, 249
Courses, 251
Master of Arts degree, 392
Minor, teaching, 249
Honors
At entrance, 49
At graduation, 67
Dean's List, 67
Program, 67
Housing and Transportation, 34
Human and Natural Environment, 19
Human Development and Community Service, School of, 158
Human Services, 174
Courses, 175
Humanities and Social Sciences, School of, 198

Incomplete work, 61, 62
Independent study, 90
Initial class meeting, 59
Academic data systems and, 26
Institutions and Special Study Centers, 27
Instructional Media Center, 25
Instructionally Related Services, 24
International Business Center, 27
International education, 37
International politics, minor in, 269
International programs, 90
International study courses, 91
Internships and Cooperative Education, Center for, 24
Internship in school administration, 163
Intersession, 23
Italian courses, 240

Japanese courses, 240
Journalism. *See* Communications, 215
Journalism education courses, 220

Language laboratory, 233
Late afternoon classes. See Schedule of Classes, 22
Late registration, 53
Fee, 55
Latin American Studies, 256
Bachelor of Arts degree, 256
Courses, 257
Minor, 258
Latin courses, 240
Leave of absence, 66
Learning Resource Services, 25
Liberal Studies, 258
Bachelor of Arts degree, 258
Courses, 260
Library courses, 91
Library, University, 25
Linguistics, 260
Bachelor of Arts degree, 260
Courses, 261
Minor, 261
Laboratory for Phonetic research, 261
Master of Arts degree, 261, 392
Loans, 35

Major, 84
Choice of, 84
Change of, 85
Program planning, 84
Requirements, 74
Management courses, 149
Management Information Systems, 132, 136
Minor, 140
Management Science courses, 151
Master of Science degree, 394
Marine Sciences, 346
Marketing courses, 155
Master's degree, 363
Degrees offered, 74, 363–425
Second Master's degree, 420
Mathematics, 347
Bachelor of Arts degree, 347
Courses, 349
Credential, 349
Education courses, 347
Master of Science degree, 379
Minor in mathematics, 349
Minor in mathematics teacher education, 349
Option for applied mathematics, 348
Option for teacher education, 348
Mathematics, Science and Engineering, school of, 299
Mechanical Engineering, 341
Courses, 341
Medical Biology, 354
Meteorology, 354
Minor, 82
Minority relations, 32
Molecular Biology, Institute for, 28
Multiple Baccalaureates, 81
Multiple majors, 81

Museum studies certificate, 367
Music, 103
  Bachelor of Arts degree, 105
  Bachelor of Music degree, 108
  Courses, 109
  Education courses, 117
  Liberal Arts Option, 106
  Master of Arts degree, 398
  Master of Music, 398
  Minor, 109
  Requirements of department, 104

National direct student loans, 35
Natural environment, 19
Nondiscrimination, 4
Numbering code for courses, 89
Nursing, 176
  Bachelor of Science degree, 176
  Courses, 177
  Health promotion, minor in, 168

Objectives of the University, 18
Oceanography courses, 354
Ocean studies consortium, 29
Orientation, 53
Overseas study, 37

Parents' Association, 20
Parking fees, 56
Petition, right of, 70
Philosophy, 263
  Bachelor of Arts degree, 258
  Courses, 264
  Minor, 264
Phonetic Research Laboratory, 28
Photo communications. *See* Communications, 213
Physical Education, 164
  Bachelor of Science degree, 164
  Courses, 169
  Master of Science degree, 399
  Minor, 166
Physical Science, 355
Physics, 355
  Bachelor of Arts degree, 355
  Courses, 356
  Minor, 356
Placement services, 32
  Part-time placement, 32
  Business, industry and government placement, 32
  Educational placement, 32
Political Science, 267
  Bachelor of Arts degree, 268
  Courses, 269
  Master of Arts degree, 400
  Master of Public Administration, 403
  Minor, teaching, 269
Portuguese courses, 240
Postbaccalaureate admission requirements, 46
Postgraduate credit, 413
Prelegal preparation, 86
Preprofessional Programs, 85
President's Scholar's Program, 21
Pretheological, 86
Privacy Rights, of students, 70
Probation, 67
  Academic, 67
  Disqualification, 67
Professional Development Center, 27
Provost/Vice President for Academic Affairs, Office of, 22
Psychology, 274
  Bachelor of Arts degree, 274
  Courses, 276
  Master of Arts degree, 401
  Master of Science degree, 402
  Minor, 275
Public Administration
  Master's degree, 403
  Minor, 265

Quantitative Methods. *See* Management Science, 151

Reading, 179
  Courses, 181
  Credential, 179
Reading, Institute for, 28
Readmission of former students, 47
Records and regulations, 58
Recreation course, 174
Refund of fees, 55
Registration, 53
  Auditors, 54
  Change in programs, 53
  Computerized records system, 53
  Concurrent enrollment, 54
  Controlled entry classes, 53
  Fees, 54
  Handicapped students, 54
  Late registration, 53
  Orientation, 53
Religious Studies, 280
  Bachelor of Arts degree, 280
  Courses, 282
  Minor, 281
Repetition of courses, 63; *see* also Graduate programs, Grade-point average standards, 421
Report delayed, 62
Research offices, 26
Reserve Officer Training Corps, 54
Residence, 48
  Continuous, 66, 419
Resource specialist, certificate of competency, 183
  of academic appeal, 70
  of noncompliance, risk activities, 70
  of privacy, 70
Russian and East European Area Studies, 284
  Bachelor of Arts degree, 284
  Courses, 284

SAT tests, 42
Satisfactory progress symbol, 62
Schedule of classes, 22
Scholarship for graduation, 82
Scholarships, 35
  Alan Pattee, 55
School administration, 163
  Internship in school administration, 163
  Master of Science degree, 382
School Psychology, 274
Schools, Divisions and Departments, 15
Science, 300, 359
Science Education, 360
  Courses, 361
Science, Master of Arts in Teaching degree, 405

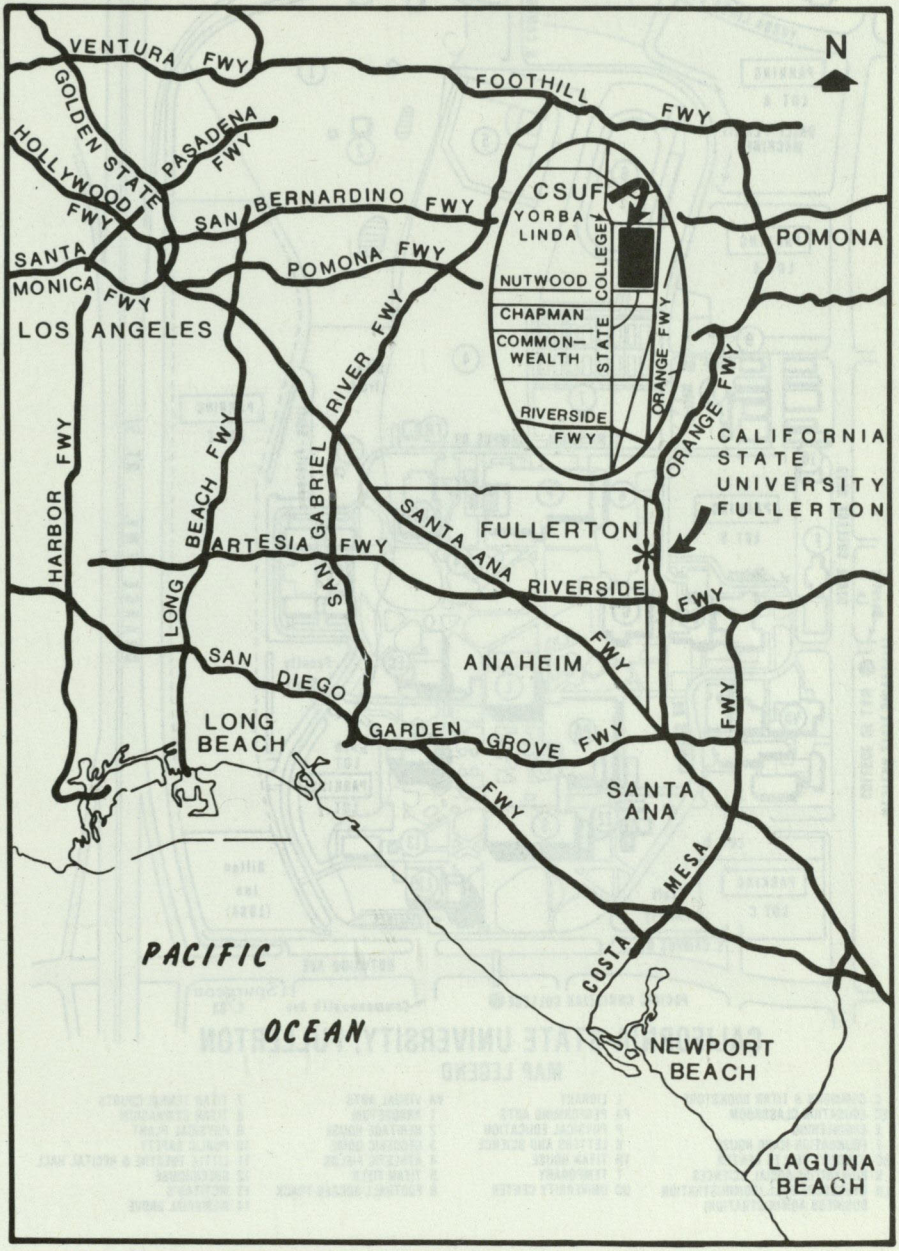
Science/Mathematics Equivalency Examinations, 51
Second baccalaureate degree, 82
Secondary education. *See* Teacher education, 185
Sex, nondiscrimination, 4
Social Sciences, 285
  Courses, 285
  Master of Arts degree, 405
Social Security number, use of, 71
Social welfare, 86
Sociology, 285
  Bachelor of Arts degree, 285
  Courses, 286
  Master of Arts degree, 406
  Minor, teaching, 286
Sororities (see Student organizations), 33
Spanish, 241
  Bachelor of Arts degree, 231
  Courses, 241
  Master of Arts degree, 407
Special education, 182
  Courses, 183
  Credentials, 182
  Master of Science degree, 383
Special Major, 92
  Bachelor of Arts degree, 92
  Master of Arts degree, 92
Speech, Language and Hearing Clinics, 29
Speech and hearing credentials, 292
Speech Communication, 294
  Bachelor of Arts degree, 292
  Courses, 294
  Credential programs, 293
  Education courses, 298
  Master of Arts degree, 408
  Minor, 293
Sport and Movement Institute, 29
Sports. *See* Student activities, 33
State University, 9, 12
Stop-Out Policy, 66
Student, 31
  Activities, 32
  Affirmative action, 26
  Athletics, 33
  Birth control information services. *See* Health and Counseling Center, 35
  Campuswide events, 34
  Center, 32
  Child Care Center, 34
  Conduct, 68
  Disqualification, 67
  Government, 33
  Health and Counseling Services, 35
  Honors, 67
  Housing, 34
  Insurance, 35
  Legal information and referral, 34
  Mutual ticket agency, 34
  News Bureau, 34
  Organizations, 33
  Probation, 47, 68
  Publications, 33
  Recreation, 34
  Responsibility, 58
  Retention, 67
  Services, 31
  Student academic affairs and special programs, office of, 23
  Student services, office of the Dean, 31
    Fee, 54
  Student-to-student tutorials, 89
  Transportation, 34
  University Center, 32
Summer session, 6, 22, 23
  Admission, 23
  Fees, 55

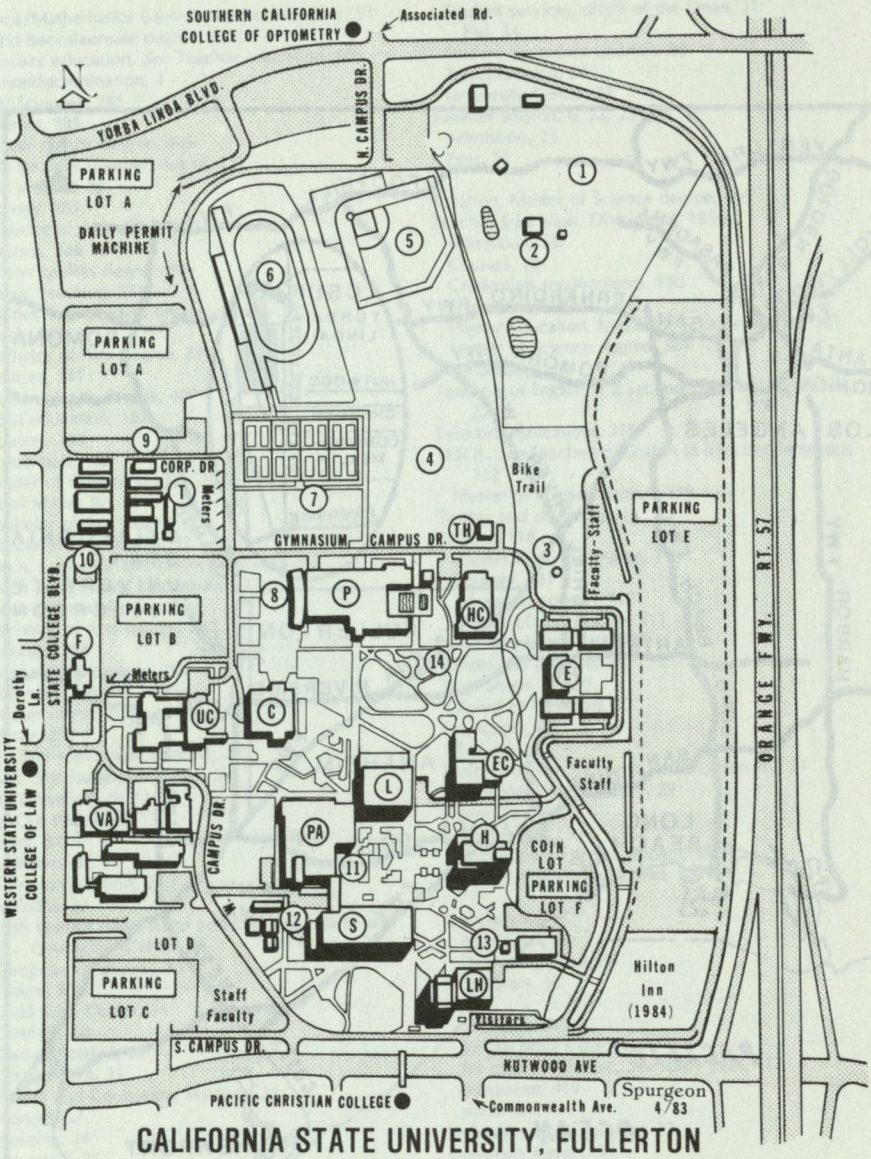
Taxation, Master of Science degree, 409
Teacher Education, Division of, 185
  Admission, 187
  Courses, 191
  Credentials requirements, 190
  Elementary, 187
  Higher Education, Master of Science degree, 381
  Master of Science degree, 381
  Secondary, 189
Teachers of English as a Second Language certificate, 232
Telecommunications, 215
TESOL. *See* Teachers of English as a second language, 232
  Master of Science degree, 379
Testing and research, 32
Theatre, 118
  Bachelor of Arts degree, 119
  Courses, 121
  Education courses, 127
  Master of Arts degree, 411
  Master of Fine Arts, 412
Theses and projects, 422
Titan Shops, 17, 30
  Board of Directors, 17
Transcripts, 66
  Fee, 66
Trustees of The California State University, 11
Tucker Wildlife Sanctuary, 29
Tuition Fee, 54
  Nonresident, 55
  Nonresident Foreign student, 55
Tutorials, Student-to-Student, 89

Undergraduate
  Admission, 40
  Degrees offered, 88
  Transfers, 50
Units
  of credit, 50
  for bachelor's degree, 74
  for master's degree. *See* study plan, 413
  maximum, 419
  minimum, 419
University administration, 13
University Center, 32
University History of, 9, 18
  Philosophy and objectives, 18

Veterans, 54
Veterans Services, 38, 54

Withdrawal, 61, 66
  Course, 61
  University, 66
Women's Center, 38
Work-Study Program. *See* Financial aid, 35
Writing requirement, upper division, 80


N
VENTURA FWY
FOOTHILL FWY
GOLDEN STATE
HOLLYWOOD FWY
PASADENA FWY
SAN BERNARDINO FWY
CSUF
YORBA LINDA
COLLEGE
POMONA
SANTA MONICA FWY
POMONA FWY
NUTWOOD
CHAPMAN
COMMON-WEALTH
STATE
ORANGE FWY
LOS ANGELES
RIVER FWY
RIVERSIDE FWY
ORANGE FWY
CALIFORNIA STATE UNIVERSITY FULLERTON
HARBOR FWY
LONG BEACH FWY
SAN GABRIEL
SANTA ANA FULLERTON
ARTESIA FWY
RIVERSIDE FWY
SAN DIEGO FWY
ANAHEIM
LONG BEACH
GARDEN GROVE FWY
SANTA ANA
FWY
MESA
COSTA
PACIFIC
OCEAN
NEWPORT BEACH
LAGUNA BEACH



CALIFORNIA STATE UNIVERSITY, FULLERTON

MAP LEGEND

C COMMONS & TITAN BOOKSTORE
EC EDUCATION-CLASSROOM
E ENGINEERING
F FOUNDATION-MAHR HOUSE
HC STUDENT HEALTH CENTER
H HUMANITIES-SOCIAL SCIENCES
LH LANGSDORF HALL (ADMINISTRATION-BUSINESS ADMINISTRATION)
L LIBRARY
PA PERFORMING ARTS
P PHYSICAL EDUCATION
S LETTERS AND SCIENCE
TH TITAN HOUSE
T TEMPORARY
UC UNIVERSITY CENTER
VA VISUAL ARTS
1 ARBORETUM
2 HERITAGE HOUSE
3 GEODESIC DOME
4 ATHLETIC FIELDS
5 TITAN FIELD
6 FOOTBALL-SOCCER-TRACK
7 TITAN TENNIS COURTS
8 TITAN GYMNASIUM
9 PHYSICAL PLANT
10 PUBLIC SAFETY
11 LITTLE THEATRE & RECITAL HALL
12 GREENHOUSE
13 MCTITAN'S
14 MEMORIAL GROVE

Photoelectronic composition by
CALIFORNIA OFFICE OF STATE PRINTING

76604—701 11-82 48M LDA

CAL STATE UNIVERSITY FULLERTON
FULLERTON, CALIFORNIA 92634
714 773-2011

PRICE $2.35 + TAX
COMPLIMENTARY COPY
THE CALIFORNIA STATE UNIVERSITY